Supporting K-12 Online Learners:

Developing a Mentorship Program

by

Clea Edwards

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved March 2017 by the
Graduate Supervisory Committee:

Ray R. Buss, Chair
Leanna Archambault
Kathryn Kennedy

ARIZONA STATE UNIVERSITY

May 2017

ABSTRACT

Online education is unique in part for the relatively high degrees of autonomy afforded learners. Self-direction and self-regulation, along with support, are essential for students to succeed. The site of this action research project was a new, small online public charter school for middle and high school students, Foothills Academy Connected (FAC). The purpose of this action research project was to develop an online learner support system that was built around mentorship and based on the four areas identified by the Educational Success Prediction Instrument (ESPRI) (Roblyer & Davis, 2008); thoroughly document the process; and examine its influence on students and the researcher. This study was focused on: (a) identifying students' main challenges with online learning, (b) identifying students' perceptions about additional supports that would improve their schooling experience, and (c) examining the process of engaging in mentorship by the emerging mentor, herself.

The study employed a mixed methods research design. Research instruments included a questionnaire adapted from the ESPRI that marked the start of the study period, visual autoethnographies, interviews, extensive research journaling to document interactions with students and parents/guardians, and a second questionnaire. The research results showed that the "emerging mentorship approach" was a worthwhile innovation for augmenting the FAC online learner student support system. In particular, developing individual student profiles based on this varied data and responding to those students' needs were accompanied by detailed documentation to develop a mentoring approach that could be used subsequently. A finding of the research was that the ESPRI would not have been effective alone in determining a student profile and responding only

on that basis. The ESPRI areas of inquiry were helpful when used in conjunction with the other data to frame students' needs and formulate personalized plans to support struggling online learners. Online learner support literature provided scant detail on the personal experience of the individual adopting the mentor role. In this study, it was determined that the process of becoming a mentor was uncomfortable and nonlinear, and it challenged the self-directedness and boldness of the action researcher as she worked in this new role as mentor.

DEDICATION

I dedicate this to my special little family, for whom I hope this effort was worthwhile.

ACKNOWLEDGMENTS

I feel very fortunate for my attentive committee who helped me develop as a practitioner scholar, challenging me intellectually to shape and conduct a meaningful action research project. I feel ill-equipped to express my deep gratitude for Dr. Ray Buss, who generously bestowed positive, encouraging words as my professor early in the program and, later, as my advisor. I appreciate tremendously his time and care (and abundant exclamation points!). He bolstered my lagging confidence when I needed it the most, demonstrating great empathy. My gratitude continues to Dr. Leanna Archambault who turned me on to the topic at the center of this action research project, and who invested substantial time and compassion serving on my committee. My third committee member, Dr. Kathryn Kennedy, provided fantastic feedback, resources, and kindness. I am thankful for each professor with whom I engaged over the course of this program, as each contributed novelly to my learnings and perspective as an educator leader.

Of course, I acknowledge my wonderful family. My husband, Jason, has been my greatest champion, and is due my most emphatic expression of appreciation. We demonstrated, once again, that ours is a true partnership, rarely turning down an adventure and weathering incredible challenges with relative grace. I hope that our perseverance through this program serves as a model for Sedona, who was born in the middle of it. She inspires every cringe-worthy cliché about parental love; I want nothing more for her than confidence, joy, and to value persistence. My parents, whose lives seem so often to be filled with interesting conversations, people, and fun, continue to demonstrate the value of education. This value is rooted more deeply now in our family than ever. They have been immensely supportive of me and my family, encouraging me

to see the meaning in my work when I struggled to maintain perspective. Consistently my cheerleader, I am very grateful for Kate, my mother-in-law, who has supported me unconditionally in whatever pursuit. During this program, her willingness to listen without judgement, express her understanding and love, and help with Sedona was truly special. I owe a debt of gratitude to the lovely women, under Kate Baker's leadership, of the P.E.O. Chapter EL Cottonwood, who believed in me and provided the financial support we needed to complete this program.

Thanks to my friends. My dear cohort provided essential support not just to persist through this program, but to feel grounded. Each member was exceptional for the personality, work and life experiences, and perspectives they contributed freely to our community. Finally, I want to extend big hugs and thanks to Annie, Maren, Auriane, and my sister, Sage, who were relentlessly encouraging and sympathetic over these intense three years.

TABLE OF CONTENTS

Page

CHAPTER Page

LIST OF TABLES

Table Page

LIST OF FIGURES

Figure Page

CHAPTER 1

LEADERSHIP CONTEXT AND PURPOSE OF THE ACTION

> *Online learning has the potential to be a disruptive force that will transform the factory-like, monolithic structure that has dominated America's schools into a new model that is student-centric, highly personalized for each learner, and more productive, as it delivers dramatically better results at the same or lower cost.* (Horn & Staker, 2011, p. 2)

Educational technology and online education have not been panaceas. They have contributed substantively to the democratization of education globally and efforts to individualize learning experiences. Nevertheless, despite this potential, education has "not changed much since students first gathered in Oxford and Bologna in the 11th century. Teaching has been constrained by technology…. Innovation is eliminating those constraints, however, and bringing sweeping change" ("Massive open online forces," 2014). Virtual or online learning, defined as "a learner's interaction with content and/or people via the internet for the purpose of learning" (p.6), has become pervasive across educational domains in recent years, including corporate training, teacher professional development, higher education, and K-12 schools (Means, Bakia, & Murphy, 2014).

The proportion of online courses, online programs, and fully online schools in K-20 education has grown substantially each year, with a recent emphasis on the availability of blended learning options (Horn & Staker, 2011). In recent years in higher education, online course enrollment has surpassed traditional ones (Means et al., 2014). Moreover, the advent of massively open online courses, commonly known as MOOCs, emerged as a way to expand the reach of premiere higher education institutions, which had previously

not been available because of high costs and other factors that presented a barrier to entry for many (Lewin, 2013).

Although K-12 education adopted the use of online learning later than other education domains (Barbour & Reeves, 2009; Means et al., 2014), online learning now constitutes an impressive and growing field of education delivery in K-12 across the country. In just five years, from 2004 to 2009, the percent of U.S. public school districts enrolling distance education students jumped from 37% to 55% (National Center for Education Statistics, 2012). By June 2013, across 31 states and Washington, DC, there were 27 state-run virtual schools and full-time online schools (Miller, 2013).

At the same time, six states including Alabama, Arkansas, Florida, Michigan, North Carolina, and Virginia implemented online course completion as part of high school graduation requirements (Watson, Murin, Vashaw, Gemin, & Rapp, 2013). Full-time online school enrollments are in the hundreds of thousands, and millions more students who attend a brick-and-mortar school are taking online courses to supplement their curriculum (Watson, Gemin, Pape, & Vashaw, 2015). As of the 2014-15 school year, just over 4.5 million online course enrollments were projected across the country, including those at state-run schools which represented about 40% of the student population (Watson et al., 2015, p. 16).

Why Online Education?

Means et al. (2014) identified four overarching trends driving online education's rapid growth. The first trend had to do with the significantly expanded access to and use of new technologies. The U.S. Department of Education's pivotal National Education Technology Plan (NETP) demonstrated this point when the authors claimed,

> …technology is at the core of virtually every aspect of our daily lives and work, and we must leverage it to provide engaging and powerful learning experiences and content, as well as resources and assessments that measure student achievement in more complete, authentic, and meaningful ways. (2010, p. xi)

Expectations and demands among young people and their parents have been high, with regards to integration of technology into educational contexts. This was, in part, due to the recognition that to maintain employability in a quickly changing economic system, people continually will need to update and broaden their skillset, even their imaginative capacity (Kelly, 2012; Means et al., 2014).

The second driver of the relative explosion of online education was its potential to help educational institutions tackle some of their most enduring challenges and those that were just materializing, including achievement gaps and the high dropout rates at high school and college levels (Beyrer, 2010; Means et al., 2014; Rovai, 2002; Simpson, 2013). Online courses have helped schools address student deficiencies, including areas of low competency, accruing missing credits, or remediating courses students have failed. Data from the 2009-2010 school year indicated that 62% of enrollment in online courses were attributed to credit recovery, and 81% of urban schools reported providing courses for credit recovery as the primary reason they offered online options (iNACOL, 2013).

The third broad source of the trend of online education had to do with economics. Online course delivery has been a means for schools to compensate for shortages in highly qualified, experienced teachers. Horn and Staker (2011) articulate this point with proper emphasis:

> Bleak budgets coupled with looming teacher shortages amidst an increasing demand for results are accelerating the growth of online learning into blended environments. U.S. Secretary of Education Arne Duncan recently described a 'new normal,' where schools would have to do more with less. (p. 2)

Online instruction became more attractive as K-12 schools grappled with immensely diminished budgets brought on by the 2008 financial crisis. Changes in the educational landscape, including the implementation of the Common Core State Standards in most states and new school personnel evaluation systems, have added to the pressure to do more with less. Online course providers have swept in quickly, providing schools with Common Core aligned lessons, courses, and teacher training materials, often in a much more affordable way than schools could develop on their own. Online learning provided schools the ability to employ fewer teachers while bolstering learning time to satisfy the educational needs of their populations. Arizona-based Carpe Diem has been cited as an example of the innovative ways in which some charter school networks deployed online education to produce expanded educational value at a cost savings ("A personalized future...," 2013; Headden, 2013; Horn & Staker, 2011; Means et al., 2014).

Finally, the fourth source of the expansion of online learning arises from the observation of the emerging belief that online education may have the power to improve K-12 schooling experiences when appropriately and effectively delivered (Means et al., 2014). Relevant factors included (a) the strategic use of technologies to support educational programs and initiatives, and (b) attention to each individual student's learning needs without requiring an unreasonable increase in resource expenditure. Among educational buzz phrases of this era include "student-centered," which referred to

the learner taking control of their learning process with teachers as guides. In following this characterization, the related concept, personalization, therefore, was within the student's agency—not an action taken upon the learner (Bray & McClaskey, 2014). Further, Horn and Staker (2011) suggested that four factors accounted for the students' better experiences that led to the success of online learning. These four factors were (a) students' learning at their own pace, (b) students' feelings of success, (c) students' use of preferred learning approaches, and (d) students' reception of more frequent feedback to foster better learning experiences.

Online education has enabled students to take ownership over their own learning, in the best cases, and encouraged them to seize the opportunity to study virtually anytime and anywhere. Moreover, it has allowed them to apply their preferred learning approaches in the interest of their personal passions and future ambitions. Finally, the extensive data capture capabilities inherent to online course delivery systems have positioned educators to better attend to each student's specific needs.

An additional, critical source of interest with respect to online education has to do with access. The potential for online education at the K-12 level to influence learning and schooling is expansive because it could provide pathways for all students to access uniquely high quality education from all over the country and world (Barbour et al., 2011). One of the greatest hurdles to approaching the democratizing potential of online education has been the so-called digital divide, the once simple term that was originally intended to capture disparities in access to and understandings about material technologies (Barbour & Reeves, 2009; Horrigan, 2016). van Dijk and Hacker (2003) operationalized digital divide in terms of access as a four-pronged concept. In addition to

material access which was related to necessary devices and internet, the researcher outlined three additional areas: mental access, skills access, and usage access. In their effort to develop an online learner readiness instrument, Dray, Lowenthal, Miszkiewicz, Ruiz-Primo, & Marczynski (2011) applied this complex conceptualization. The Federal Communications Commission outlined its plan to tackle persistent disparities between rural and urban, and more and less affluent areas, particularly in the home ("Connecting America...," 2010).

The dramatic increase of online, blended, and technology-mediated learning has accounted for one type of a broad range of attempts by educators to provide alternatives to the ways schools connect content and skill development with students' learning approaches and life circumstances. It is arguable that despite these expanded options, students still have found themselves lost in what remains a largely one-size-fits-all education system. The success of the schooling experience, in terms of learner development and achievement, has hinged critically on the student support system provided by the education program (Hoffman, 2016; Jagannathan & Blair, 2013; Watson, et al., 2015). The position of this action research project is that there has been and continues to be a need for a model that can help learners draw upon their own resources, interests, and strengths to propel their educational experience. The following section describes the immediate and broader contexts of the action research project consuming the rest of this dissertation.

Context

Foothills Academy College Preparatory (FACP), founded in 1993, is a small charter school serving grades K-12. The school has consistently maintained an "A" or

"Excelling" rating from the Arizona Department of Education, except for the 2012-13 school year, when a "B" rating was attained. With two campuses located in North Scottsdale and Cave Creek, the population served has been predominantly Caucasian and in the upper-middle income bracket. Small class sizes have been maintained, and all instructors were certificated and highly qualified in their subject matter areas. Although teacher certification was not a requirement for charter schools in the state of Arizona, FACP held this requirement as a policy. Aside from strong performance on standardized tests and an impressive record of students obtaining scholarships and entering leading higher education institutions, the school has prided itself on the sense of community cultivated on and off campus, which students have continued to express long after graduation.

I serve as Director of Foothills Academy Connected (FAC), as well as the co-chair of the Technology Committee for AdvancED accreditation technology plan development and maintenance. I also occupy the Secretary role of the Foothills Academy's Governing Board. After a nearly two-year long pilot implementation of offering online learning options on campus, I launched the fully online public charter school for grades 7-12, known as FAC. The approach of FAC has been aligned with and extended the mission of FACP, "to provide an educational setting for academically advanced students who are self-directed, competent learners who will excel in college and exercise leadership in a changing world" (Foothills Academy, n.d.).

Foothills Academy Connected. FAC has been and continues to be a part of the Foothills Academy "family" of schools, but is fiscally and otherwise independent, per state requirements. It has been a part of the Arizona Online Instruction (AOI) program,

awarded participation for grades 7-12, and has been accountable for the same policies, restrictions, and accountability mechanisms as other district or public charter schools, with certain specifications appropriate to the different domain. FAC has been conducted as an independent school, with unique CTDS and Entity ID numbers. It has been intended for full-time enrolled students, although the school offered courses for credit recovery, enrichment, test preparation, and Advanced Placement on a one-off or part-time basis.

I, and the rest of the FA leadership, have strived to make FAC a highly personalized academic program and support system delivered primarily online. FAC was established for students in grades 7-12 to (a) take ownership over their own education, (b) connect it to their passions and aspirations, and (c) prepare them for their postsecondary futures, college and/or career. Our belief was that this rigorous competency-based academic curriculum would appeal to the independent-minded, enthusiastic learner, capable of taking hold of his/her own education. Our intention was that students would increasingly, as the program progressed, play an integral part in designing it. FAC has continued to provide learners with both one-on-one attention and the flexibility and space to learn nearly whenever, wherever, and in whatever manner they find best suits their needs, encouraging them to develop creative approaches to apply content and demonstrate mastery in novel ways. In some respects, the character and operations of FAC defaulted to a much more online courseware-dependent program than imagined, due in part to the clientele and ability to compensate faculty. The intent of this action research project is to address one of the critical areas of program improvement where students would benefit directly—supporting students during online learning.

Online courses accommodating brick-and-mortar students' needs. In the fall of 2015, I helped launch a pilot implementation of a "flex scheduling program" for FACP students, which enabled greater choice and flexibility in types, delivery, and source of students' courses. The online courses provided the school the ability to more easily and affordably offer a broad range of courses, including those for Advanced Placement, remediation, and for accommodating students' particular learning needs. This constituted a major policy shift, as the school leaders had previously been reluctant to incorporate online courses, due to certain challenges including teacher compensation, online courseware license capacity, brick-and-mortar scheduling, and the potential perception that FA was diminishing its college preparatory orientation by integrating web-based course options, many of which expressly were not as rigorous as the school's brick-and-mortar equivalents. Moreover, it indicated a further blurring of the boundary between FAC and FACP for operational purposes; although, per the legal mandate governing AOI schools, fiscal and student accounting must be separate. The FACP Principal and FAC leadership began working even more intentionally to consider what was best for individual students and what was acceptable for the combined student population and future of Foothills Academy.

During the school year 2014-15, students were concurrently enrolled in both FAC and FACP if they took both online and on-campus courses. This was not only incredibly cumbersome, but also lost the school much needed average daily minimum (ADM). This compelled the school to find an-improved way of accounting to the state. The "external provider" designation was used to indicate FACP students' attendance in web-based courses; this meant that 100% ADM could be captured, and there were not two separate

school enrollments to manage for students whose curricula included online and brick-and-mortar courses. This situation was illustrative of some of the challenges and learning experiences FA leadership encountered as it began to develop alternative course delivery options.

Arizona Online Instruction Program. In 2010, the state passed legislation (A.R.S. 15-808) allowing any district or charter school to apply for the opportunity to open a separate, fully online school for Arizona residents, under the Arizona Online Instruction (AOI) Program. As of the 2012-2013 school year, 22 online charter schools and 52 districts offered part- and full-time options under the AOI program serving approximately 42,000 part- and full-time students (Watson et al., 2013).

The Arizona Republic published a six-part investigative series on online education in the state, in December 2011. Referring to its findings, Ryman (2012) wrote:

> The series revealed that Arizona's online K-12 programs have relatively lax oversight and limited disclosure of key information and there are few or no requirements for how schools monitor their tests or train their teachers. The risks of cheating in the largest online schools are high, and questions about quality and lack of rigor plague the system.

Subsequently, legislative and accounting oversight–as well as public attention–intensified, particularly due to the demand evident throughout the state for online education. AOI schools have been held accountable in a variety of ways, including state standardized test participation and scores, a three-year probationary period following initial approval, annual reports, including student surveys, and student performance such as completion of courses and graduation rates. Schools participating in the AOI Program

must have reported to the Arizona Department of Education's Student-Teacher Connection (STC) system, indicating the titles of each course offered, the identity of the associated highly qualified teacher (HQT), and the Student Accountability Information System (SAIS), where attendance status was detailed. Moreover, online schools have been funded at a rate that has been less than brick-and-mortar schools but were otherwise treated similarly. With regards to online school funding in Arizona specifically, A.R.S. 15-808 stipulated:

> A pupil who is enrolled full-time in Arizona online instruction shall be funded for online instruction at ninety-five per cent … [and a] pupil who is enrolled part-time in Arizona online instruction shall be funded for online instruction at eighty-five per cent of the base support level that would be calculated for that pupil if that pupil were enrolled as a part-time student in a school district or charter school that does not participate in Arizona online instruction.

The next section describes the existing support system of FAC to contextualize the discussion about improving support for FAC students.

Existing student support system. I serve as the founding director of FAC. I drafted and presented the application for the Arizona Online Instruction Program of the Arizona Department of Education, after conducting a pilot implementation of an online learning program at Foothills Academy. I viewed FAC, in part, as an important component of FA's strategic and intentional progress toward designing for future learning. For fall 2014, FAC added a Director of Instruction and Technology; the person who filled this position contributed tremendously to the AOI application effort. This role focused on the daily operations of FAC, including student advising, parent

communications, plan of study development and monitoring, teacher supervision and support, and other responsibilities typically conducted by a principal.

Hiring the Director of Instruction and Technology changed my role dramatically. I became more responsible for public relations and marketing, which included seeking and developing partners in the community. I remained the leader on policy development, ensuring high-level compliance, coordinating with other Foothills Academy leaders and processes, and managing budgetary and human resource matters with FA's Administrative Operations Manager. I attended to the public face of the school, and I have worked continually to boost enrollment. I collaborated with the Director of Instruction and Technology to update and improve policies and practices affecting students' experiences. Together, we drafted evaluative questionnaires and implemented other approaches for gathering feedback, then reflected collectively on the data, and considered and crafted plans for changes in response to the data.

As discussed further below, each course was associated with a subject matter expert, a highly-qualified teacher, in every case except electives, who guided students through course content. They might have used email, video conferencing, such as Google Hangout, Skype, FaceTime, GotoMeeting, etc., instant messenger such as Google Chat, in-person meetings, or other forms of communication that best suited the student-teacher pair. The first phase of hiring focused on FACP teachers who expressed interest, and indicated their readiness, in an unofficial interview process. In later iterations of the process, I sought other research-based qualities among instructors. These included teachers who have had previous experience facilitating online courses; who, additionally, have had the ability and interest to facilitate interaction with and among students; who

have collaborated with others to create high quality courses; and who demonstrate an understanding of and possess the presentation qualities specific to the distance learning domain, including questioning strategies (Roblyer, 2005, section "Working in the 'Schools…'").

Students at FAC had a Program Advisor who worked with them and their families to develop the Plan of Study, or "personal learning plan," and guided them through their tenure at the Academy. At this time, the Director of Instruction and Technology and I shared the Program Advisor role, which we coordinated on a somewhat ad hoc basis, due to our small scale. Because FAC was developed as an extension of Foothills Academy College Preparatory, it did not have to hire and an administrative team. The schools shared reception staff, which fielded phone calls and questions from walk-ins, serving as the first line of information and support for current and prospective families. FA's Student Special Services Coordinator provided for students in need of special accommodations, including Individualized Education Programs. This person also helped FAC ensure compliance with and craft policies for students' special needs and the school's protection in this regard.

The registrar worked with the Director of Instruction and Technology to monitor and report attendance to the state, "close" courses and grade books, and produce transcripts and diplomas. Attendance reporting involved transposing students' digital time logs, which were self-reported, with a weekly "signature" by parents, on a pre-prepared Google Sheet, into data for SAIS. As a side note, this was an additional example of the unduly tedious processes involved in proper accounting for the online school. This sentiment was not unique to FAC; personal communication with administrators of other

AOI schools attested to this perception, having to navigate the changing Arizona Department of Education landscape and the murky functionalities of our student information systems.

Finally, parents/guardians were critical collaborators in the success of students and the program overall. The FAC Student/Parent Handbook outlined expectations, policies, and recommendations. Parents/guardians were informed of their role as their student's learning coach, advocate, and supervisor. By way of a signed agreement with the school, parents/guardians committed to an array of actions pertaining to this responsibility at enrollment and annually. These types of expectations of parents/guardians were not unique to FAC. The stated responsibilities included providing an appropriate environment and resources for student learning, with reliable access to sufficient technologies and additional learning materials, if applicable; planning a daily schedule enabling the student to meet the time and coursework requirements, while supporting the student to implement it; and actively and consistently monitoring the overall progress of the student, to ensure they understood this in terms of their long-term goals.

Purpose

The purpose of this action research project was to develop an online learner support system in the style of mentorship, based on the areas of need identified by the Educational Success Prediction Instrument (ESPRI) (Roblyer & Davis, 2008), thoroughly document the process, and examine its influence on students and the researcher. Although online education has offered a great many benefits and was therefore attractive to schools and students for various reasons, several of which were noted above, attrition has been

quite high relative to brick-and-mortar schools (e.g., Beyrer, 2010; Rovai, 2002). The combination of personal and programmatic characteristics may have contributed variably to challenges students faced in the uniquely autonomous schooling setting (Freidhoff, Borup, Stimson, & DeBruler, 2015). The factors included, "academic rigor, lack of motivation, technological problems, and a lack of teacher immediacy… which are compounded by students' low self-regulation and metacognitive abilities" (Freidhoff et al., 2015, p. 108). Thus, attrition may have pointed to an opportunity for online programs to enhance the support they provided students, and otherwise reevaluated their approaches. The desired effect of this action research project was that the Foothills Academy Connected mentorship program supported student readiness, achievement, and satisfaction in ways that can be measurably improved.

My frame of action constituted an analysis of students' readiness for online learning, crafting individual student profiles using mixed methods data, working with students in a highly-targeted way to address known online learning weaknesses, and extensively documenting the process and my reflections. The study model was predicated upon the utility of the Educational Success Prediction Instrument (ESPRI) to illuminate specific areas of student weakness in the online learning context. In addition to descriptive statistics, certain characteristics of the students' contexts and extant literature on mentoring guided the inquiry into technology skills/access/self-efficacy, achievement beliefs, instructional risk-taking, and organization. Each area of inquiry, as relevant to student success in online settings, was founded upon research in online and distance education, as thoroughly cited in the works on ESPRI (Roblyer & Davis, 2008; Roblyer,

Davis, Mills, Marshall, & Pape, 2008; Roblyer & Marshall, 2002) and elsewhere. My research questions were:

1. Which factors identified by the ESPRI (Technology skills/access/self-efficacy, Achievement beliefs, Instructional risk-taking, and Organization) present the most significant challenges for FAC students?
2. What types of support do students feel would be most helpful to address their most significant challenge to online learning (parent engagement, teacher involvement, programmatic interventions, etc.)?
3. What would documentation of the process of developing a highly personalized online learner support system at FAC feature?
4. How has the action researcher, herself, changed as a result of implementing the development of an online learner support system process at FAC?

In this action research project, I anticipated that a portion of the population was not prepared for web-based schooling, which experience with the population has demonstrated. Further, I anticipated the FAC support system and programmatic structure was lacking in critical ways to enable students to be and feel successful. This application of ESPRI has not been attempted elsewhere, and no tool that was currently available was specifically designed to be appropriate for K-12 online program self-evaluation and improvement. Moreover, mentoring in online learning settings was an area that warranted additional inquiry both in terms of academic research and practitioner efforts (Freidhoff et al., 2015). With the rapid expansion of online learning, these appeared to be worthwhile pursuits.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

Emerging research on online middle and high schools, which is embryonic compared to traditional schooling modes, has pointed to relatively high attrition rates and poor course and program completion rates (e.g., Barbour & Reeves, 2009; Barth, Hull, & St. Andrie, 2012; Borup, West, Graham, & Davies, 2014; Rankin, 2013). One example of the attrition in online education programs for the K-12 market came from a National Education Policy Center report in 2012 on schools operated by K12 Inc., the largest online education provider in the country. The company released a report stating nearly a quarter of its student population had been enrolled for less than a year, and two-thirds had been enrolled under two years (Miron & Urschel, 2012, p. 36). These data, as well as insights from my own experience in online school administration, indicated a need for greater student support in online schooling systems. Student support has included not just program personnel and resources, but putting the procedures in place for getting to know each student, and understanding the degree to which and in what ways they may struggle with online learning.

Online education may be able to provide some students with exactly what they needed: personalized academic programs, individual attention, relatively self-paced curriculum, and flexibility as to where, when, and how they demonstrated subject matter competencies (Means et al., 2014). What was also clear, however, was that online learning was neither for everyone, nor for every educational application, and even those for whom it was appropriate, struggle was often apparent – students often endured some degree of struggle as their self-regulatory skills were tested in the highly autonomous

arrangement. Both the attributes and experiences of the learners as well as the features of the online education program were relevant to conversation about high attrition and low course completion rates (Roblyer & Marshall, 2002). More specifically, inability to persist in online education settings may have resulted from the combination of the transactional distance of the facilitator, marginal sense of community, rigor of coursework that was either unexpected or that the student was unprepared for, issues with technology, as well as low self-regulatory learning and metacognitive skills, motivation, or goal-orientation (Cho & Shen, 2013; Freidhoff et al., 2015; Sansone, Fraughton, Zachary, Butner, & Heiner, 2011).

Until recently, research on online education has been primarily focused on the characteristics of the learner and the learning environments (Roblyer et al., 2008, p. 91). In comparison to the prevailing research, Roblyer et al. (2008) argued that "environmental variables can play as important a role in students' success as the characteristics and background students bring to the course" (p. 105). The focus of the research agenda at hand has a similar multi-dimensional orientation: the framework of an online education program should be built upon our best understandings of student success, including the characteristics of each student and his/her respective context, best practices in course quality and delivery, and be receptive and adaptive to each learner's needs and changing circumstances.

Chapter Overview

This chapter is organized into three main sections. In the first section, I have provided a brief overview of existing research on how online learning programs can, have, and could support learners. Here, I addressed elements critical to an effective online

education support system. This brief exploration was intended to feature aspects of the learner experience where programmatic interventions could be effectual.

My particular focus was on a singular support role, to which I turned in the second section. I reviewed literatures discussing a person or a team whose agenda was devoted to attending to individual students' academic status, learning needs, and developmental well-being, irrespective of domain (online or onsite). Although the terms used to refer to this role varied among the authors and existing programs, the aspects of the mentoring roles shared among them were extensive and similar.

In the third section, I described learner attributes most frequently associated with online learning success, and, hence, offered suggestions about those with which students were most likely to struggle and which led to failing a course or dropping out. I focused primarily on self-regulation, which as I demonstrated through a brief review of scholarly work, was an essential trait for online learners. Because I believed it was useful to study this current generation of learners who were at the K-12 level, known variably as Generation-Z (or Gen-Z), as part of the task of coming to know our students, I provided a brief section to address this matter. With a concise understanding of the characteristics of competent online learners, I proposed that we, as educators in online settings, can begin to connect programmatic interventions–such as the targeted actions of a mentor–to each student's individual learning needs.

The final section was dedicated to introducing the online learner mentorship program at the heart of this proposal. In Chapter 3, I provided specific details regarding my roles and responsibilities as action researcher, mentor, and the interventions envisioned for the proposed innovation. It was from the exploration of literatures and

case studies reviewed in this present chapter that I have developed the concept for and character of my innovation. In this chapter, I intended to provide a guide for how my experience as a practitioner, a leader in a small online education program, led me to action research which enabled me to contextualize the problem I recognized within my setting and consider a model for change rooted in lessons learned from student support models that have been tried as well as from existing scholarship.

Elements of an Effective Online Education Program Support System

Supporting the online learner has become an important matter in online education (DiPietro, Ferdig, Black, & Preston, 2008; iNACOL, 2011; Journell, 2013; Lowes & Lin, 2015; Rice, 2011; Roblyer, 2006a). Because online education programs have been different, with varying organizational structures and arrangements of roles and responsibilities, the focus of research was similarly diverse. However, a close investigation indicated that some of the disparity was terminological, rather than conceptual. There were myriad commonalities among extant studies. These offered lessons for online education programs, such as FAC, to articulate a support system with roles and responsibilities for student success.

At the foundation of an effective online education program was an individual or team devoted to interacting regularly with, monitoring, encouraging, being a resource for, and generally supporting each student and connecting him/her to the program. In some online educational models, the online instructors attempted to provide, sometimes as part of their job description, the additional support students needed. However, case studies on such examples found that the students felt insufficiently supported and instructors felt overburdened with the additional responsibility. As Borup and Drysdale (2014)

explained, the product of this recognition in some cases was the implementation of student support models reliant on establishing a unique role, established outside of instructional responsibilities and focused on developing personal relationships. Such a personnel move was made with the intention to enhance provision of the whole-person support K-12 online learners apparently needed and to alleviate additional pressure on course facilitators to support students, beyond their content and teaching expertise. Other programmatic features receiving wide agreement in online education literature regarding online student success included (a) ongoing technical support, (b) pre-course orientation, (c) instructional quality, (d) support at home, (e) sense of community, and (f) the use of a predictive instrument to assess pre-enrollment students' learning abilities. These were highly relevant to this study, though they were not the direct focus. I addressed them each briefly next, before turning to research more specifically tied to the mentor concept. In Chapter 3, I explained how the proposed mentorship concept integrated the elements addressed in this section.

Technical support. Because online education programs have relied on computing devices and the internet, students' proficiency in these technologies was critical. In addition to ensuring students had appropriate technological skills, several authors have discussed the importance of ongoing and easily available technical support for all students (National Education Association, 2006; "National Standards for Quality Online Courses," 2011; Roblyer, 2006b). Students who faced technical issues were at great risk of falling behind, losing interest, getting frustrated, or even dropping out (Harrell, 2008). "Technical support and course management assistance" was among the *National Standards for Quality Online Courses*, published by the International Association for K-

12 Online Learning (2011, p. 18). Reviewers rated courses according to the extent they aligned with the following basic measures. Technical support, ideally, would have been available online every hour of everyday. Otherwise, convenient hours would have been made readily apparent, a rapid response was practiced, and other resources were accessible to students such as Frequently Asked Questions. Additionally, the K-12 Secondary Rubric for online courses, published by Quality Matters, included technical support among its nine general standards (*The Quality Matters K-12 Program K-12 Secondary Rubric–9 General Standards*, 2013, p. 2). This was, perhaps, among the most basic of critical support mechanisms.

Orientation. Engaging students in a program orientation as part of onboarding was a key feature of effective online programs (Beyrer, 2010; Harrell, 2008; Jagannathan & Blair, 2013; Smith, Murphy, & Mahoney, 2003). Roblyer and Davis (2008) noted "past studies have found…that orientation sessions for distance learners can make a significant contribution to success…[and those] that specifically address how to organize and work in online environments could be especially useful to at-risk students" (sec. Using the model's output). Beyrer (2010) found a positive relationship between online students at a community college who enrolled in an orientation course and success rates in online classes. Further, Beyrer suggested that the design of this fully online course was to provide students an orientation into online learning, their new schooling experience. This operated in part by guiding them through the learning management system, such as using the discussion board and assignment submission functions in much the same way as they would encounter in their online courses (Beyrer, 2010, p. 90). An online orientation "should give students experiences that mimic online courses," "be interactive," introduce

and help students develop appropriate skills such as time management, netiquette, and computing, and cover with students all "institutional policies, procedures, and resources" (Harrell, 2008, sec. Student Orientation). These authors also indicated the orientation was an opportunity to ensure that students were proficient with requisite technologies so any technical issues or questions were resolved before students began their courses.

Instructional quality. The quality of the course facilitation, the course design, and the layout of the course delivery system were important to online students' success (National Education Association, 2006; Rice, 2011). A multitude of dissertations could very easily be devoted to each of these essential elements. I grouped them together to make brief reference. The *National Standards for Quality Online Teaching* and *National Standards for Quality Online Courses*, both published in 2011 by the International Association for K-12 Online Learning, along with the Quality Matters *K-12 Program K-12 Secondary Rubric*, published in 2013, offered authoritative criteria.

What works in the brick-and-mortar environment has not been transferrable to online. Harms, Niederhauser, Davis, Roblyer, and Gilbert (2006) described the distinctness of the teaching role in virtual contexts relative to traditional educational settings as requiring a paradigm shift that included fundamentals like perceptions of time, place, and strategies for student interaction. The online domain removed some classroom management issues typical of a brick-and-mortar class. However, the transactional distance and the unlimited distractions at students' immediate disposal have forced the online teacher to be particularly creative and diligent. The timeworn teacher-centered approach has been shown to be pathetically ineffective online at engaging students (Means et al., 2014; Rice, 2011). More than in any other setting, the delivery of online

education required cultivating a level of engagement and motivation that acknowledged the infinite potential distractions at students' immediate disposal. Further, as Rice (2011) explained, effective online teaching necessitates close attention to how students were engaging with the content within their courses, with the course facilitator him/herself, and with peers, as possible.

Because the domain was unique, online education has had its own set of teaching standards; a selection of standards follows. One was responsiveness to each student (e.g., within 24 hours of the receipt of a student email). A second was facilitating interaction, including providing collaborative learning opportunities. A third was exhibiting technological competency, including the ability to provide students' technical support. A fourth was implementing self-evaluation tools and demonstrating adaptability, to improve learners' experience (which Rice referred to as "formative design" [2011, p. 188]). The following two were appropriate to face-to-face educational settings: using student assessment strategies that were tied to learning objectives, varied, and that "make the student continuously aware of his/her progress in class and mastery of the content beyond letter grades" (Watson & Gemin, 2009, p. 9); and, the purposeful orientation toward 21st century content and skills development. In addition, Borup, Graham, and Drysdale (2014) developed the construct "teacher engagement," an extension of Community of Inquiry concept, "teacher presence." They suggested six elements were fundamental to teacher engagement: designing and organizing, facilitating discourse, instructing, nurturing, motivating, and monitoring.

Course and learning management system design standards included accessibility to accommodate students with special needs; general user-friendliness, including logical

organization; appealing aesthetic; architectural modifiability; and obvious technical support options. Rice (2011) emphasized design as a critically important element of an effective online program. She explained that, when good design principles and practices were deployed, the course platform was nearly irrelevant to the user; whereas, the user experience can become dominated, even ruined, by poor design. By way of a small example to illustrate the importance of effective course and platform design, an online teacher participating in a study on best practices in online teaching at Michigan Virtual School stated, "I like everything to be laid out for them [students] so they can clearly understand the directions, clearly understand what I am asking for and then they know what they need to do and not do" (DiPietro et al., 2008, p. 22)

Support at home. In the K-12 online education context, the support a student has access to at home or through an in loco parentis close community connection was highly related to that student's likelihood of thriving in the online environment (Curtis & Werth, 2015; Hasler Waters, Menchaca, Borup, 2014; Liu, Black, Algina, Cavanaugh, & Dawson, 2010). Some Arizona online schools have built into their program requirements for parents to act as tutors or "learning coaches" to their students. For example, directions at Connections Academy, a major national educational enterprise with public charter schools across the country including Arizona, explained on the "Parent" section of their website that "the person who supports the child's online education in the home is called a 'Learning Coach.'" Among the specific duties outlined on an additional page were (a) "understanding the commitment," which referred to the time and energy required of parents/guardians, including completing a training, dedicating a number of hours to overseeing schoolwork (more or less depending on whether the student is in middle or

high school), communicating with instructors, and monitoring assignments; and, (b) constructing a learning structure, involving daily schedules and monitoring pace and progress ("Parental Responsibilities," 2016).

The Adolescent Community of Engagement framework Borup, West, Graham, and Davies (2014) proposed for thinking about and designing online learning environments for adolescents acknowledged the integral role of support at home. The positive influence parents/guardians had, they suggested, was related to instructional assistance, acting as a facilitator of the student's interaction with schooling staff, and establishing a conducive learning environment. These roles were similar though not unnecessarily redundant with the roles they described for an effective online teacher. With respect to facilitating interaction, nurturing, monitoring and motivating, and volunteering are among the tools recommended. This set of responsibilities included providing love and care, a safe environment conducive for learning, paying attention to what the student was doing in his/her classes, understanding and engaging in the program, and providing positive reinforcement to try to compensate for the probably low motivation and external locus of control characteristic of teenagers. Also among the specific duties recommended for parental support was "giving positive reinforcement following students' positive engagement activities [helping to 'fill this void' left by the 'motivating physical presence of instructors']" (Borup, West, et al., 2014, p. 119). Parents/guardians were able to support learners whose self-regulation and organization skills were inadequate for the online context by helping them organize their physical work spaces, plan their work goals, and build and stick to schedules. The final element the model hypothesized was important to parents/guardians' ability to support their

online learners was instructing. Subject area expertise was unnecessary; this was conceptualized as a study skills support role, providing content help as possible.

Liu et al. (2010) made a similar point about the importance of parental involvement with regard to helping students overcome the relational distance with their instructors in online education environments. They wrote, "in virtual learning environments, parental involvement in student academic activities are especially important for student academic achievement considering the lack of physical presence of teachers and the chunk of time students spend on learning at home" (Liu et al., p. 120). Further, the authors emphasized the value of "presence" the authors stated that it "has critical impact on the development and shaping of the academic success factors identified by Roblyer and Marshall (2003) [*sic*] such as self-control ability, technological skills, self-esteem, learning motivation, and time-management skills" (p. 108). These authors claimed there was a dearth of literature on parental involvement in online learning. To that end, their work validated a parental involvement instrument, as a tool for researchers to study parents' influence of their online students' learning experience.

Sense of community.

> If you expect learners to contribute beyond your minimum expectations, you make sure they feel a real connection to the content and to their peers as part of the larger learning community. (Rice, 2011, p. 143)

Among the most important responsibilities of those serving in a support personnel role was building and maintaining a sense of community within the online education environment. Sense of community was a critical factor that facilitated success in online education (DiPietro et al., 2008; M. Roblyer et al., 2008; Sadera, Robertson, Song, &

Midon, 2009). Harms et al. discussed the relevance of "mediated social presence, [which] is the degree to which a user of a communication technology feels that another human being or intelligence is accessible and co-present via medium" (2006, sec. "A VS System"). This indicated that it was the human factor in the online environment, instead of the learning management system or something intrinsic to the technology, that provided the "social glue" or sense of community so vital to the retention and success of online learners (sec. "Conclusion and Future Directions").

Referencing the highly-respected organization dedicated to thinking about education and technology, the International Society for Technology in Education (ISTE), an article on engaging the "online millennial" student stated that "ISTE believes the convergence of technology, coaching, and building community is essential to model learning and teaching effectively in a connected, global society" (Jagannathan & Blair, 2013, p. 4). Increasing interest in developing community and sense of community across industries has, perhaps, been attributable to a collective perception that both were weak in the United States (Rovai, 2000). Goodlad (1997) illustrated this perception in a blistering critique of American culture when he said, "increasingly in the late twentieth century, the economic-technocratic-static worldview has become a monstrous destroyer of what is loving and life-affirming in the human soul" (p. 125). Communities offered a setting, a common ground, where reciprocal obligations and mutual engagement cultivated relationships among members and helped make members feel "needed and valued" (Rovai, 2000, p. 286). Moreover, consistent with the classic work on retention in the latter quarter of the twentieth century by education theorist Vince Tinto, "students who possess strong feelings of community are more likely to persist than those students who

feel alienated and alone" (Rovai, 2002, p. 320). Retention has been an immense challenge for online education institutions, and such statistics pointed towards an opportunity to enhance the likelihood of students choosing to "persist," i.e., foster a strong sense of community (Patterson & McFadden, 2009; Simpson, 2013).

Alfred Rovai has played a critical role in developing the sense of community construct as it has been applied to geographically distributed learning contexts such as online courses and programs. For Rovai, community has been conceptualized in terms of "what people do together," as well as physical proximity, which has made its application particularly relevant to "asynchronous learning networks" (Rovai, 2000, p. 286). Asynchronous learning networks have been defined as "people networks for anytime, anywhere learning via the Internet" (Rovai, 2002, p. 320). Rovai's work had its roots in the research conducted by McMillan and Chavis who first offered a definition and a theoretical framework of sense of community when they suggested, "Sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9). This definition featured the four attributes of their framework: membership, influence, "integration and fulfillment of needs," and shared emotional connection (McMillan & Chavis, p. 12).

Cultivating and maintaining sense of community has been a part of most credible best practices recommendations for online education programs (e.g., DiPietro, Ferdig, Black, & Preston, 2008; Hofmann, 2014; Sadera et al., 2009). Drawing upon previous research, Rovai discussed how students' sense of community was central to their persistence, achievement, satisfaction, and sense of well-being, the quality of interactions

in asynchronous discussion fora, and their choice to stay (retention) in an online program (DiPietro, et al., 2008; Hofmann, 2014; Sadera et al., 2009). In general, these outcomes were interconnected and affected each other. For Rovai (2002a),

> members of [physical or virtual] classroom communities [can be expected to] have feelings of belonging and trust. They will believe that they matter to one another and to the group; that they have duties and obligations to each other and to the school; and that they possess a shared faith that members' educational needs will be met through their commitment to shared goals. (section "Sense of Community")

In his work, Rovai (2002a) determined there were a set of central components to understand the construct, which he refined into four broad dimensions: spirit, trust, interaction, and commonality of expectation and goals. By spirit, Rovai meant to offer a concept that "denotes recognition of membership in a community and the feelings of friendship, cohesion, and bonding that develop among learners as they enjoy one another and look forward to time spent together" (Rovai, section "Spirit"). With respect to trust, Rovai maintained that members could and would rely on and are concerned mutually for the welfare of each other. Interaction was understood as either task-driven or socio-emotionally-driven. In either case, Rovai suggested the idea that interactivity correlated with trust, satisfaction, and persistence in the broader endeavor of the current educational path. Finally, commonality of expectation and goals referred to learning itself, which "represents the common purpose of the community as members of the community grow to value learning and feel that their educational needs are being satisfied through active participation in the community" (Rovai, section "Common Expectations: Learning).

An important question at the heart of educational innovation in the virtual domain, then, has been how to foster and maintain sense of community for learners. Rovai identified a set of factors that were influential in asynchronous learning environments. Crucially, for each of these, he indicated the course facilitator and educational institution played a role in supporting students' experiences and influencing positively some of the factors relevant to students' sense of community. In other words, course design, program structure and procedures, and course facilitator practices, in addition to student characteristics and behaviors, were vital in the formation of and continued sense of community (Rovai, 2002a).

These essential factors for sense of community in online education were: transactional distance, social presence, social equality, small group activities, group facilitation, teaching style and learning stage, and community size. Transactional distance referred to the relative "space" between a learner and an instructor, psychologically and with respect to communication (Moore, 1990). Social presence may be eloquently operationalized in an online setting as taking "on more of a complexion of reciprocal awareness by others of an individual and the individual's awareness of others. . . to create a mutual sense of interaction that is essential to the feeling that others are there" (Cutler, 1995, p. 18). By social equality, Rovai was primarily referring to courses and instructors protecting and promoting opportunity for participation equally among students. Small group activities simply meant there was value in some programmatic or course structure that facilitated small numbers of learners collaborating on meaningful learning activities. An online instructor's ability to facilitate group task and socio-emotionally related interactions was a critical dimension of sense of community cultivation. The alignment

between teaching style and a student's learning stage was important for supporting sense of community; each learner is at a different "stage" relative to his/her peers, and at a different stage than s/he was upon enrollment or even at the previous week. Finally, Rovai wrote about community size to indicate that the number of members comprising a community was relevant for online settings. Though there was no precise guide for how many members provided for an effective community, too sizable a number could overwhelm members, whereas too small of a group might produce insufficient interactions (Rovai, 2002a).

Community and online success. Sadera et al. (2009) examined the relation between community and students' perceptions of their own success. They gathered data using Rovai's (2002) Classroom Community Scale, an instrument to measure students' sense of community in their learning environment. The tool has been shown to be valid and reliable and has provided data on the relation between connectedness and learning. The researchers had an 11.3% response rate (121 undergraduate students) to the online questionnaire. The personal characteristics of the sample, with regards to age, race, previous experience with online education, and employment were consistent with those of the typical returning student in an online technical undergraduate degree program. The small sample represented a substantial limitation of the study, noted by the authors. Nevertheless, broad interpretations of their results may be instructive because the research for online learning of students from junior high and high school was so limited (Cavanaugh, Barbour, & Clark, 2009).

Roughly speaking, the researchers organized their work around three issues. First, Sadera et al. (2009) asked how perceived learning was affected by participation in the

online community. Students reported they learned more and were better able to meet course objectives when they invested more time and energy into the course. Second, they examined directly how learning was influenced by sense of community. They found a positive correlation, which indicated students who reported greater connectedness also reported higher perceived learning. Sadera et al.'s third focus was whether the amount and type of online interaction affected sense of community, or "feeling of membership in the learning community" (Sadera et al., 2009, p. 279). Included in their analyses were students' participation in chat rooms, email, content specific discussion boards, non-subject-specific discussion boards, and study groups. Their findings were a bit inconclusive, though email was found to be influential for participants in the age range from 31 to 40. Overall, "results support Rovai's (2002) definition of learning in that community members interact with each other as they pursue the construction of understandings and share values concerning the extent to which their educational goals and expectations are being satisfied" (Sadera et al., 2009, p. 281).

Community as teaching best practice. DiPietro et al. (2008) discussed the scarcity of K-12 online education research, particularly with respect to the specific, and subtle differences between the online environment and the more traditional face-to-face environment. They asserted existing studies generally presented adaptations of teaching strategies that worked for face-to-face environments. These "best practices" often were not applied and triangulated against actual online teachers or teaching experiences, and therefore neglected to account for the unique characteristics of the online learning experience. The development of community and sense of community were identified among the best practices highlighted.

DiPietro et al. (2008) interviewed sixteen online teachers–all highly qualified and noted for their exemplary performance–at Michigan Virtual School (MVS), a decidedly reputable K-12 online school. MVS was selected for its then-recent partnership "with the University of Florida and the AT&T Foundation to begin developing content-based best practices in K-12 online instruction," (p. 12) and Michigan's strong emphasis on online instruction, which made online teaching quality a high priority for the school. Moreover, the sample was selected for its diversity in response to an oft-cited critique of extant K-12 online learning research (Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004); specifically, teachers represented a varied array of instructional levels, content areas, and online teaching experience. The researchers employed a semi-structured interview protocol, involving an initial interview to obtain informed consent and introduce the study, and the second, main interview was guided by seven questions that allowed for probing and follow-up questions. In addition to coded interview data, the researchers gathered observational notes. The uniqueness and utility of this study was derived from its presentation of data, which offered a litany of facilitation practices, each with a description, a quote from one of the instructors representing the practice, and a set of references providing scholarly justification and context (triangulation) for each one of the outcomes. The study results yielded "twelve general characteristics, two classroom management strategies, and twenty-three pedagogical strategies" (DiPietro et al., 2008, p. 16), each of which emerged from all participants' statements and/or observational data.

Communication and community was one of the subcategories in which the pedagogical strategies were organized; community and sense of community each were demonstrated across the rest of the data, including the personal and instructional

characteristics of teachers. Related to community, a best practice for online teachers that researchers identified was "facilitat[ing] the formation of community by encouraging content and non-content related conversations among students" (DiPietro et al., 2008, pp. 24–25). This outcome spoke to the importance of building a social community and valuing and providing the space and support for connections among peers. Among DiPietro et al.'s conclusions, which they also said warranted future research was that "classroom management in online education was a key component to quality online instruction [in part because it] helped build a community of practice within the classroom" (DiPietro et al., 2008, p. 28). Although the authors did not refer to communities of practice in a strict sense, their results seemed to be consistent with that construct as operationalized by Etienne Wenger-Trayner who has maintained communities of practice were "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger-Trayner, n.d.).

Online learner support guided by a predictive tool. In their work, which presented the first iteration of the Educational Success Prediction Instrument, Roblyer and Marshall suggested the potential for a predictive tool (like the ESPRI) to help educators assist learners with overcoming struggles or dropping out in the online schooling environment (Roblyer & Marshall, 2002). The authors maintained the four constructs around which ESPRI-V1 was organized–achievement beliefs, responsibility, self-organization ability, and technology skill/access–indicated factors that counseling could address. Specifically, they proposed that, guided by the diagnostic information a

predictive tool could provide, "precourse counseling, structuring of courses, and support during courses" would vitally enhance an online school's support system (2002, p. 253).

The counseling role conceptualized in this study involved working with online students who scored low on ESPRI, indicating a likelihood of failure, to "make sure they know of the additional demands of [online] courses, help them develop better study and organization skills, and make sure they have adequate technology access and skill levels" (Roblyer & Marshall, 2002, p. 253). The support provided by the program personnel in this way might have included (a) an orientation unit addressing, e.g., "the need to take responsibility and structure their own time," (b) extensive progress monitoring, (c) technical assistance, and (d) other types of resources and support–sometimes face-to-face–to continually help students "'[learn] how to learn' in [online schooling] environments]" (p. 253). Roblyer and Davis positioned the ESPRI as a tool, implemented prior to course enrollment, to "help organizations increase student success and reduce dropout rates in distance courses" by assessing both learner and learning environment characteristics, making student support more efficient and proactive (2008, sec. A Rationale for Studying Success Prediction).

It was not my intent in this action research project to make a claim about the best tool for predicting students' readiness for online learning. My exploration of existing research uncovered a myriad of examples of attempts to develop and deploy such instruments (Bernard, Brauer, Abrami, & Surkes, 2004; Carson, 2011; Moon-Heum Cho & Jonassen, 2009; Dray, Lowenthal, Miszkiewicz, Ruiz-Primo, & Marczynski, 2011). The ESPRI-V2 (Roblyer et al., 2008) emerged as robust and comprehensive, focused on learner attributes as well as the learning environment in a way that data produced offered

actionable findings. It was formulated in such a way to enable online education program support personnel to assess and address learners' needs proactively. The first iteration of the ESPRI comprised four constructs with many more items than the second. The earliest version, published in 2002, was organized around achievement beliefs, responsibility, technology skills, and organization (Roblyer & Marshall, 2002). The second iteration of this instrument, ESPRI-V2 was updated to reflect "the increasingly diverse literature in this area" and was modified based upon additional field testing (Roblyer & Davis, 2008). The four constructs in this version, which were put into practice in this action research study as described in Chapter 3, were organization, achievement beliefs, instructional risk-taking, and technology skills/access/self-efficacy. In addition to items within these constructs, ten items were added to collect "data on student characteristics that, in combination with scores on cognitive variables measured by ESPRI-V2, were hypothesized to contribute to student success" (M. Roblyer et al., 2008, p. 95), namely those "related to student background (e.g., self-reported GPA), as well as online learning environment (e.g., home computer access, availability of a school period set aside for VS course work)" (D. Roblyer & Davis, 2008, sec. Methodology and Findings from the Roblyer, et al. Success Prediction Study).

Roles and Responsibilities in an Effective Online Education Program

The educational innovation at the root of this project was informed by existing literatures and approaches to support online learners. In this section, I outlined some of the different ways in which others have constructed the support element of online education programs, whether in practice or theory, focusing primarily on a separate role,

which is to say, an individual or body devoted to student support. Ferdig (2010) articulated the value of this role simply by writing,

> The ability of a student who had dropped out of formal schooling to succeed online is related to the use of both a high-quality teacher and a mentor or set of mentors. Research has highlighted the importance of the mentor.... (p. 20).

I have devoted a brief closing section to online learner readiness prediction instruments, the use of which guided the innovation implemented here. This literature served as the foundation from which I developed the concept for an online learner mentorship program for Foothills Academy Connected, which purposefully applied evidence-based interventions for promoting student satisfaction, sense of community, and, ultimately, academic achievement and retention. My conceptualization of the role of the "mentor" and the features of the mentorship program were derived from the research described below.

Online learner mentor mandate. Michigan has become a leader in supporting online learning. It was the first state to require for graduation that high school students take an online course. In 2014, the state updated its education law to establish "expanded online learning options." The legislation provided that public school students in grades 6-12 may enroll in and get credit for online courses, with certain conditions, and not have it count against their full-time enrollment, by which schools were funded. The legislation mandated that each online student must have a mentor. Mentor was defined as "A professional employee of the district [on-site] who monitors the pupil's progress, ensures the pupil has access to needed technology, is available for assistance, and ensures access to the teacher of record…" ("5-O-D: Expanded Online Learning," 2015, p. 2).

In response, Michigan Virtual University produced a research-based guide called, "Mentor fundamentals: A guide for mentoring online learners," to outline a mentor's essential roles and responsibilities and provide tools to help prepare mentors. The document described mentors as liaisons, coordinating among the student, instructors, parents, and other program personnel, and "contributing to a vision of the whole student" (2014, p. 4). Significant to the student was the trusting, caring, and supportive relationship mentors built working with and being available to the student very regularly, if not daily. According to statute, mentors do not need to be students' instructors of record, but they can be. Nevertheless, pursuant to Michigan law, the mentor has to be a certified teacher.

The mentoring guide outlined sixteen specific responsibilities "common" to mentors, ranging from counseling students through enrollment and course choice, monitoring progress, interpreting expectations of instructors and of program, as well as providing feedback, to fostering "a learning environment that is welcoming, supportive and flexible enough to meet individual student needs" (p. 4). From my perspective, the most noteworthy of these was the responsibility to "Teach and encourage students to be self-directed, independent learners who are responsible for their coursework, but ensure resources are available to help them succeed" (p. 4). This conceptualization of the role involved extensive communication between students, parents, instructors, and administration; proactivity including getting ahead of students' struggles, not waiting to hear from them first; relationships, particularly with the student, but also with instructors and parents; and learning skills development to assist students who may have been ill-

prepared for the degree of time management and self-discipline required in an online program, so scaffolding and training was necessary.

Onsite support personnel. The term "facilitator" was used by some researchers to capture a support role with a set of responsibilities that were fundamentally akin to MVU's "mentor" (Drysdale et al., 2014; Harms et al., 2006). Harms et al. maintained the functional framework of an online education program was comprised of three complementary and interdependent roles: designers, instructors, and facilitators. Freidhoff et al. (2015) suggested the characterization of facilitator by Harms et al. was as well-suited to the term and framing of "mentor:" The facilitator was not expected to be a subject area expert, and was focused on relationship building and attending to each student's overall learning experience. In Harms et al.'s framework, individuals in this role, facilitator or mentor, worked to "understand [students'] needs, [assist] students in developing learning skills, [foster] academic honesty, [motivate] students to fully engage in learning activities, [encourage] student-instructor and instructor-parent communication, closely [monitor] student progress, and [orient] students to the LMS" (Freidhoff et al., p. 109). Both the work of Harms et al. and Freidhoff et al. referred to on-site mentors.

In a sense, the role of the mentor was multi-faceted, involving attention to the minutia of students' course progress as well as their general well-being and longer-term trajectory. Hannum, Irvin, Lei, and Farmer (2008) discussed a training program to prepare online learner mentors that they called "facilitators," which exemplified the range of this critical role. In addition to "discussing assignments," and dealing with technological and course-related issues, facilitators were expected to begin building

community and helping students connect to the program and to each other from the first day of school (Hannum et al., p. 218). Participants, who were future mentors, engaged in training on how to "support and guide students" (Hannum et al., p. 217) through their fears, time management challenges, anxiety and the feeling of overwhelm, disengagement, and "[help] students help themselves" (Hannum et al., p. 218).

The International Association for K-12 Online Learning produced a "how to" guide for starting an online learning program (iNACOL, 2011). Among the five recommendations of services comprising the "Student Support" section was "academic support and mentoring." The others were "guidance counseling," "enrollment support," "orientation," and robust and ongoing "technical support" available 24/7. The mentor model discussed briefly referred to someone who met face-to-face with students, ensured the student stayed on track, and helped to provide an integral link between the student and the instructor. With respect to this last point, the guide suggested "even if the student resists communication with the online teacher, the online teacher can communicate with the mentor and then the mentor can directly address the issue with the student" (iNACOL, 2011, sec. Student Support).

Online mentor. Fully online support personnel have been shown to be appropriate for some educational models. This was due to the impracticality and cost associated with providing onsite space for learners to work and staff to meet with them or the reality of some student populations not desiring or capable of campus attendance. As Borup and Drysdale noted, "an increasing number of students are enrolling in full-time online programs and study almost exclusively at home—never stepping foot in a brick-and-mortar school" (Borup & Drysdale, 2014, p. 325).

Drysdale, Graham, and Borup (2014) described an online learner support program, where online school teachers adopted mentor-like roles, called "shepherds," to connect directly with each student and make students feel "comfortable with [an 'anchor adult'] so they can ask questions and solicit advice" (p. 11). This was one of the scant pieces of scholarship documenting this support role fully online, rather than on-site. Interviews with mentors after the study period highlighted three sets of responsibilities they deemed central to their role: "building caring relationships" that involved some degree of mutual personal disclosures, respect, and understanding; "facilitating content interaction" including monitoring course performance, dealing with technological issues, and helping students develop necessary study skills; and "providing communication links" by advocating for and representing students when appropriate and acting as a program liaison (p. 17).

Online Learner

Characteristics displayed by successful online learners. As has been discussed, online education programs have presented learners with unique challenges. What do we know about successful online students? Rice (2011) suggested students who tended to thrive in an online education setting demonstrated the following set of qualities:

> Have competent computer skills; Have time to devote to class; Have high organizational skills; Have reasonable written and oral communication skills; Take responsibility for their own learning; Have confidence in their abilities; Have a high level of motivation; Have additional adult support. (p. 209)

The "Profile of a Successful Online Learner" articulated by the MVU *Mentor Fundamentals* Guide included "Good Time Management," "Effective Communication,"

"Independent Study Habits," "Self-Motivation," "Academic Readiness," and "Technologically Prepared" (2014, p. 6). Fetzner (2012) provided an interesting perspective on this matter. She shared the advice unsuccessful online students offered prospective online students. The top thirteen tidbits were:

1. Stay up with the course activities—don't get behind
2. Use good time management skills
3. Use good organizational skills
4. Set aside specific times during each week for your online class
5. Know how to get technical help
6. A lot of online writing is required
7. There is a lot of reading in the textbook and in online discussions—be prepared
8. Regular online communications are needed
9. Ask the professor if you have questions
10. Carefully read the course syllabus
11. Be sure you understand the requirements of the online course discussions
12. Understand how much each online activity is worth toward your grade
13. Go to the online student orientation, if possible. (2012, pp. 16–17)

In their review of the literature on student characteristics for online learning, Roblyer, Davis, Mills, Marshall, and Pape (2008) mentioned the relevance of previous academic experiences and demonstrated abilities, which their GPA or transcript would reflect; technological proficiency; and "cognitive factors (e.g., locus of control, field dependence/independence, learning styles, attitudes)" (p. 92). Although it may seem from this very brief presentation of extant literature that the array of learner traits attributable

to "success" was expansive, the characteristic that emerged as essential and, arguably, captured conceptually a range of these highly relevant attributes for success was self-regulation. This was the focus of the following section.

Self-Regulation. Frequently, virtual learning settings have presented learners with a degree of autonomy and an absence of the kinds of controls or guides that have been more familiar in traditional settings, including instructor presence, assignment due dates, and daily accountability. Self-regulated learning theory offered a vital lens through which to understand potential student success and challenges in online education. Ample research has demonstrated that self-regulated learning skills were integral to students' experiences, including their satisfaction and achievement, in online educational settings (Moon-heum Cho & Shen, 2013). Based on a systematic review of literature in online education focused on self-regulated learning, Artino (2007) argued for adopting a social cognitive perspective on self-regulation for studying high achievers in online education settings. Such a perspective recognizes the dynamics among the learner, his/her behavior, and the relevant social context.

The following is a constructive definition of self-regulated learning (SRL) theory: "an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features of the environment" (Pintrich, 2000, as cited in Artino, 2007, sec. "Self-Regulated Learning"). Some models of self-regulation have suggested behavior was primarily determined by processes internal to the individual, such as self-attention, self-esteem, and cognitive resources like intelligence and coping skills (Jackson, Mackenzie, & Hobfoll, 2000). High achieving

students were considered to be self-regulated, which meant they "regularly take complete and organized sets of notes (cognitive strategy use), possess high levels of academic self-efficacy (motivation), and monitor their progress on various academic tasks (metacognition)" (Kauffman, 2004, p. 140). The relation between academic success and strong self-regulatory capabilities has been cited widely in literature of both traditional and online learning settings (Moon-heum Cho, Demei, & Laffey, 2010; M. Roblyer et al., 2008; Zimmerman, 2002).

Most SRL research has been oriented toward the individual, assuming that learners' contexts, including social factors, have minimal influence on behavior (Jackson et al., 2000). Jackson et al. (2000) articulated a strong critique of this position and argued for a "communal *self-in-social setting regulation* (authors' italics)" model, which "recognizes that individuals self-regulate and monitor their actions within a network of socially mediated factors, such as family, organizational, and group-based needs, goals, and desires" (p. 276). Upon reflection, this re-orientation could be applied to online education, given the relatively high degree of interaction a quality online course must include (Quality Matters, 2013) and the crucial support systems students must rely upon to succeed in the autonomous domain often represented in online learning.

Among the critical factors that have characterized the "effective online student" was "organization and self-regulation" (Roblyer, 2005, sec. "The Dropout Rate Problem…"). Echoing this point, Kauffman (2004) affirmed online instructional tasks were generally conducted independently, "students—particularly those who are less self-regulated—may benefit from prompts that encourage cognitive strategy use, motivation, and metacognitive processing" (Kauffman, 2004, p. 140). This suggested the role of the

educational institution was fundamental to student success—including course design, learning platform, and personnel in supporting student success by enhancing students' implementation of self-regulatory strategies. Nevertheless, it was worth noting Roblyer's (2005) observation that "although virtual teachers frequently build in checks and prompts to remind and encourage students to keep up with courses tasks, students who do best are already so organized and motivated that they need fewer or no such prompts" (section, "The Dropout Rate Problem: What Makes an Effective Online Student?"). Unfortunately, empirical research has been limited on self-regulated learning as it has been applied directly to junior high and high school virtual students, particularly studies that have gone beyond identifying correlational relations. Two studies described below have offered valuable insights.

Self-regulation in online learning. Cho and Shen (2013) provided a comprehensive examination of how goal orientation and academic self-efficacy affected online learner academic achievement, as mediated by effort regulation, metacognitive regulation, and interaction regulation. Goal orientation and academic self-efficacy commonly have been thought to be central constructs of self-regulation (Pintrich, 2004). Specifically, Pintrich (2004) discussed these constructs in terms of motivation and affect regulation, aspects of the self-regulation construct in his conception, along with "perceptions of task difficulty, task value…and personal interest in the task" (p. 395). Results from Cho and Shen's (2013) study added to research that demonstrated the importance of students' intrinsic goal orientation and academic self-efficacy in online learning success. Moreover, Cho and Shen cited previous studies, which showed,

> if students dropped out of online courses because of lack of SRL, [they] tended to show lack of goal commitment, locus of control, and academic self-efficacy…[as well as] lack of coping strategies and resilience and underestimated the time required to complete tasks. (Moon-heum Cho & Shen, 2013, p. 291)

The authors asserted multiple types of self-regulation should be part of the online learning success equation, whereas most existing literature has been concerned primarily with self-regulation for tasks directly related to the academic process, i.e., metacognitive self-regulation.

The study focused on two sections of an undergraduate course with the same professor, delivered entirely online with 30 and 34 students, respectively. All students in each section participated. Academic achievement was the dependent variable, unique in the landscape of SRL research. To this point, the authors wrote, "By using achievement as the dependent variable, the researchers have contributed to existing SRL studies in which positive relationships between SRL and achievement are assumed" (Moon-heum Cho & Shen, 2013, p. 298). Three major measures of self-regulated learning were used: goal orientation, academic self-efficacy, and regulation.

Crucially, for the authors' purposes, regulation was studied in terms of effort regulation, metacognitive regulation, and interaction regulation. In the literature, each of these measures has been shown to play a key role in the online learner experience (Moon-heum Cho & Shen, 2013; Kauffman, 2004; Pintrich, 2004; Shea & Bidjerano, 2010). The *Motivated Strategies for Learning Questionnaire* (MSLQ) guided the development of most of the questions student participants were asked. Interaction regulation was measured in terms of writing, responding, and reflection strategies that were embedded in

questions from an online self-regulated learning inventory, validated in previous work. The study yielded somewhat similar findings as those obtained in previous studies of traditional educational settings, which were conducted to examine self-regulated learning (Moon-heum Cho & Shen). Specifically, students with intrinsic goal orientations tended to demonstrate more persistence and were more involved in their learning by regulating their own cognition and motivation.

Further, academic self-efficacy and self-regulation were positively correlated with metacognitive regulation, which referred to "students' ability to plan, monitor, reflect, and adjust their learning process while studying learning materials" (Moon-heum Cho & Shen, 2013, p. 292), and to interaction regulations, which were concerned with students' social tendencies. The authors offered recommendations for online course facilitation that would enhance the intrinsic goal orientation of students, promote academic self-efficacy, and "scaffold students to regulate their learning" (Moon-heum Cho & Shen, 2013, p. 298). Examples of these recommendations included enhancing teachers' presence by way of timely and thoughtful feedback and effective facilitation of online discussion, required problem-based learning activities, monitoring, as well as guiding and stimulating peer-to-peer interaction (Moon-heum Cho & Shen, 2013).

Wang, Shannon, and Ross (2013) presented results in a study of an online education setting that simultaneously examined students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes. Their findings added to understandings about the relation among these factors, critical to designing and facilitating online learning environments in ways that were most supportive of student success. While their study applied to higher education, the insights are useful to my

context in a college preparatory grades 7-12 setting, since the problems of practice are so similar. Their study was conducted based on the premise that, "SRL is important to determine successful learning experiences (i.e., satisfaction and achievement) in technology-mediated learning environments" (Wang et al., p. 290). The researchers developed a structural equation model (SEM), based on existing empirical studies, and utilized a non-experimental, quantitative research design that employed self-report survey measures. Their choice of SEM was appropriate for their research, and they conducted an initial study to test the model's validity.

Participants were undergraduate and graduate students over the age of 19, who were identified as having taken an online course at a single university during the 2008-2009 academic year. The response rate was 12.05% from a survey invitation that was sent to them by email. The electronic survey was anonymous, and seven different forms were delivered to preclude responding order effects. Four instruments were deployed: (a) a demographic questionnaire (eliciting information about participants' age, gender, education level [undergraduate or graduate], number of online courses the students have taken, and the grade the student achieved for the most recent online course); (b) a course satisfaction questionnaire (CSQ) with 21 self-reported items on a 7-point Likert-type scale; (c) a *Modified Motivation Strategies for Learning Questionnaire* (modified MSLQ) with two orientations–motivation and learning strategies–on a 7-point Likert-type scale; and, finally, (d) an online technology self-efficacy scale (OTSES), which used a 4-point scale to assess students' confidence with technologies.

The number of previous online courses taken affected learning strategies. Specifically, those students who reported having more experience with online education

also indicated they used more effective learning strategies. Use of effective learning strategies led to higher motivation, and motivation positively influenced course satisfaction, as well as technology self-efficacy. Final grades were positively related with course satisfaction and technology self-efficacy. Moreover, "students' motivation, learning strategies, and technology self-efficacy are mediators between students' gender, educational level, previous experience in online learning settings, achievement, and course satisfaction" (Wang et al., 2013, pp. 115–116).

Findings indicated the important role of course design and facilitation. Student's self-regulatory abilities, motivation, technology self-efficacy, and, ultimately, course outcomes were positively influenced by active, strategic involvement by the course facilitator and quality course and e-learning platform design (Wang et al., 2013, p. 319). This last outcome can be viewed as both empowering and instructive, from the perspective of program administration, including teacher selection, hiring, training, and supervision.

Generation Z. The focus on the individual student as unique and with particular learning needs was at the crux of this study's focus on effective online learner support. Even so, context matters. Just like each generation before them, American K-12 students have come from a generation wherein they shared certain basic experiences and knowledges about the world and with technology. The language of generations was inherently broad, espousing broad-sweeping generalities across a population with great variability of socioeconomic status, values, and personal circumstances. Yet, in my process to come to a richer understanding of those with whom I work, emerging research

on Gen-Z provided a useful perspective. For this reason, I have provided a brief sketch of especially relevant findings below.

With this generation's birth years beginning around 1995, the digital realm including social media, wi-fi enabled devices, and other modern technologies were so integrated into many learners' developmental experiences that their ways of knowing and being may have been fundamentally different than previous generations (e.g., Gibson, 2016). Although research still has been emerging on this generation, marketers and other researchers came to recognize this constituency represented more than one-quarter of the U.S., Gen-Z was already demonstrating its substantial power in the marketplace of goods and ideas (sparks & honey, 2014). They grew up during the Great Recession, immediately following the 9/11 era, and during a time when schools, and society more broadly, were becoming more committed to inclusivity, embracing diversity, and interrogating traditional notions of gender and other social classifications (Rothman, 2014; sparks & honey, 2014).

Characteristics of Gen-Z that researchers observed, beyond their inexorable relationship with technology, included their desire to produce an impact, often globally, in some form, environmentally, socially, politically, or economically ("Top 10 Gen Z...", 2016). As of 2013 U.S. Department of Labor statistics, 26% of 16-19-year-olds were volunteering, and social entrepreneurship was indicated as one of the most popular potential career paths (sparks & honey, 2014). There seems to be general agreement that Gen-Zers were smart, ambitious, self-aware, yet had even shorter attention spans and even greater penchants for "multi-tasking" than the millennial generation preceding them (Beall, 2016; "Top 10 Gen Z...", 2016; Gibson, 2016; Hawkins, 2015; Rothman, 2014).

These young people expected their educational institutions to respect them for their individuality, their ability and desire to construct their own narratives, which sometimes involves curating multiple personas across different social media, and to have a partner in their learning. This harkened to the, now cliché, phrase communicating the transition educators began to discuss with millennials: away from the sage on the stage and towards the guide on the side. Because Gen-Zers have grown up with technologies that provided immediate responses, both from the devices themselves or from those with whom they interact using the devices, they have expected a similar speed of feedback from their instructors. Relatedly, they pursued speed over accuracy, the clearest example of which have been the forms of shortened language used to communicate across social media (Gibson & Contrera, 2016; Rothman, 2014). Thus, my action research was informed by my exploration of existing research and commentary on Gen-Z; the preceding section highlighted some of these findings to provide an additional aspect of the task to better understand the profile of K-12 online learners.

Online Learner Mentorship Program

It has been and continues to be part of the online education institution's obligation to both help counsel prospective online learners based on this fundamental need, and to support students' self-regulation development. Students with a higher degree of self-regulation were more likely to succeed in online learning settings (Artino, 2007; M. Roblyer et al., 2008; Shea et al., 2013). Roblyer and Marshall wrote:

> that the relatively unstructured nature of these courses requires that students have a higher than average ability to organize their time and complete assigned tasks in a timely way…[and] the burden of self-organization and responsibility for

> completing tasks…seems to fall primarily to students. (Roblyer & Marshall, 2002, p. 253)

Those for whom online education may have been appropriate given their life circumstances, for example, chronic medical condition, extreme social anxiety, a highly demanding commitment that takes considerable time and energy such as dance, or caring for a family member who demands their attention during typical school hours, may have found themselves incapable of successfully navigating the expectations of the course. Schools have attempted to identify learners who may be ill-prepared for online coursework before they begin, implementing predictive tools and other diagnostic practices, and determining their particular deficiencies, such as a lack of self-regulatory capabilities.

Unlike many existing studies that argued for support personnel situated either on campus where the students worked on their online courses during the school day (e.g., Freidhoff et al., 2015) or online (e.g., Drysdale et al., 2014), the FAC mentorship program was not constrained by one domain or another, and conducted to develop a presence (Rice, 2011) with the student online and on-site. Attending campus for independent study in the FAC Learning Center during the school day was not an option for all students; distance to campus, physical or psychological health-related issues, personal preference, and transportation were among the reasons. However, the use of this on-campus space, if feasible for students, was often supportive to learners who struggled to get started each day, stay on task, manage their time, and feel connected to their program.

The purpose of this action research project was to reinforce the Foothills Academy Connected student support system with an additional human factor: a mentor who was consistently involved in each student's pace, progress, and overall well-being, to the extent reasonably possible. The following statement precisely captured the impetus for the present action research study: "Efforts to increase the rate of success, ['including retention and improved rates of' graduation] of [online] students may benefit from the identification of students with deficits in this area, coupled with interventions to increase levels of related competence" (Carson, 2011, p. 399). The cornerstone of this project about building a more effective online learner support system featuring an individualized mentorship program was the pre-course or, for current enrollees, pre-intervention assessment process. I applied an adaptation of the ESPRI (ESPRI-V2, from Roblyer et al., 2008) as a diagnostic tool to help ascertain specific aspects of the online education experience with which each student was likely to struggle. My role as action researcher and mentor, as well as the interventions implemented to generate positive change in the online learning capacity of the FAC population, is described further in Chapter 3.

CHAPTER 3

RESEARCH DESIGN

In Chapter 3, I discuss the method used for this action research study. Specifically, in this section, I describe the setting, participants, role of the researcher, innovation, instruments, procedure, data analysis, and threats to validity. I intended for my study design to be inextricably linked to my interventions, such that the tools enabling my data collection acted also as interventions to some degree. Explanation of this mindset and justification for my choices follows.

Setting

The problem of practice of concern focuses on students whose needs exceeded the scope of Foothills Academy's brick-and-mortar school (a "traditional" K-12 institution), as well as other local alternative or virtual schools. Foothills Academy Connected (FAC) is the online school I founded in 2014 under the Arizona Online Instruction Program (Arizona Revised Statute §15-808). Students have been attracted to the program for a wide variety of reasons. The common thread among them was other schools' inability to attend effectively to their particular learning needs or life circumstances. Examples include high social anxiety paired with high academic skills, disruptive behavioral issues, physical or medical conditions that impede their ability to attend a school campus or even other virtual schools consistently, and the need or desire to work at their own pace and on their own schedule to accommodate a job, for example, to support a family; or a significant hobby such as barrel racing or international modeling, which were two examples from the 2014-2015 student population.

There has been and continues to be a need for an educational model that assists learners to draw upon their own resources, interests, and strengths; online modalities may be effective. There was a need, also, to address the characteristics of online schooling that apparently were unsupportive of many of even the most persistent learners, to enable a successful educational experience while capturing online education's benefits. FAC's founding principles were formulated out of an aspiration to develop such a model. The school has attempted to provide students with a highly personalized, self-paced academic program where students have been encouraged to and increasingly have been able to take ownership over their own learning.

Online education literature from the last two to three decades offered a myriad of considerations for online instructors, programs, and students to be "successful." For example, studies have referred to interactivity (DiPietro et al., 2008; Drysdale et al., 2014; Jagannathan & Blair, 2013), sense of community (Rovai, 2002; Sadera et al., 2009), and students' self-regulation (Artino, 2007; Moon-heum Cho & Shen, 2013; Lowes & Lin, 2015). Yet, there were few resources exploring how existing programs might identify students' particular areas of weakness in terms of online learning aptitude, and how to develop student support elements highly specific to those needs. This study and its application of the Educational Success Prediction Instrument (ESPRI) and related research (M. Roblyer et al., 2008; M. Roblyer & Marshall, 2002) were designed to attain new insights about these issues.

Participants

The population for this study was the Foothills Academy Connected student body. All FAC students, grades 7-12, were requested to participate in the study. At the study

start, FAC enrollment was 20, ranging from grades 7-12, with no 9th grade students. My study sample comprised those who affirmatively responded to my invitation (providing their assent and consent from their parents/guardians). The sample was requested to engage in both surveys, the photo project, and an interview. Due to my sense of a small sample and the challenge eliciting participation, it no longer made sense to select students for data collection, as I originally intended. I put additional effort into seeking the participation from certain students because of my perception that they (a) "[could] help…generate or discover a theory or specific concepts within the theory" and/or (b) offer a particular perspective "that will help answer research questions" (Plano Clark & Creswell, 2015, p. 334). I chose them, in other words, based upon my sense, as a practitioner-scholar embedded in this context, that these particular students would provide meaningful, if not novel, information about their personal and, possibly to some extent, the general experience of online schooling with FAC.

To explain further, after the initial invitation to the entire sample, participants for the autoethnography and interviews were recruited using a purposeful or purposive sampling approach, with a particular orientation toward "opportunistic" and "concept sampling" strategies (Plano Clark & Creswell, 2015, p. 334). I have chosen purposeful sampling to best identify sampling "units" to answer this study's guiding questions. Purposeful sampling is a "type of sampling in which, 'particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices'" (Teddlie & Yu, 2007, p. 77). Concept sampling refers to when a researcher chooses to include in a study "individuals…because they can help…generate or discover…specific concepts within the theory;" the theory in

the case of this study is the relationship between self-regulatory learning skills and online learning success (Plano Clark & Creswell, 2015, p. 334). Opportunistic sampling refers to sampling "to take advantage of unfolding opportunities that will help answer research questions" (Plano Clark & Creswell, 2015, p. 334). Students were additionally encouraged to participate in the autoethnography and interviews based upon insights they might have had specific to the questions guiding this study. I also chose students, following an opportunistic approach, based upon their apparent willingness to engage thoughtfully with me on this research project. Ultimately, my sample became one of "convenience:" those who were willing to participate after my extensive recruiting efforts.

In all, there were nine students who participated in the study. Three of the participants provided photo ethnographies. Moreover, individual profiles for three students were constructed based on data from both questionnaires, the photo projects (for two of the three students), the interviews, and any personal communications with the student and the parents.

Role of the Researcher. I, the Ed.D. student, nascent action researcher, and practitioner, led the development of the FAC student support system and acted in the capacity of "mentor." In this way, my role was as "initiant," engaging with students forthrightly and becoming a regular participant in their schooling experience (Flick, 2014, pp. 162–163). My positionality involved my directorship of the online school, and my increasing role in the school's brick-and-mortar administration. For the purposes of this research study, my data collection efforts expanded my role to observer, surveyor, interviewer, and project manager (of the autoethnographies). The questionnaires came

from me, as school leader, accessible online by way of a Google Form. I presented students with the autoethnography assignment by way of email and received questions and submissions from students the same way. As interviewer, I conducted semi-structured interviews that concluded the study, where I inquired directly about students' online learning experiences, including their reflections on their own development as online learners. In working with students and parents/guardians face-to-face and at a distance, I was an active observer and participant, reflecting in my research journal about our interactions and my observations of them as online students. Parents and students have known me as their first point of contact prior to enrollment and throughout that process. With the enhanced support role I adopted, they continued to know me as a critical contact on all matters.

This evidence-based in loco parentis figure, the mentor in this project, focused on bolstering each student's connection to the program, provided explicit attention to each student's progress and plan of study, offered regular encouragement, and attempted to be a resource to students. As described by extant research, the liaison element of such a support role is integral to its success (Drysdale et al., 2014; Harms et al., 2006; *Mentor fundamentals: A guide for mentoring online learners*, 2014). The existing student support system at Foothills Academy Connected included front desk and registration personnel, course facilitators (instructors of record), the Director of Instruction and Technology, Technical Support for the course delivery system, and me, the director. In my mentor capacity, I worked to provide a link between students and their course facilitators and administrative personnel as necessary. Recognizing the important role of the adults at home, I engaged parents/guardians in understanding better the course delivery system,

their students' activity and performance and how to monitor it, and provided them with tips and tools to support their students in being effective online learners. An element of this innovation was providing more avenues for students to connect with one another, such as an online discussion group or face-to-face meetings.

An Educational Innovation: FAC Online Learner Mentorship Program

The innovation was composed of two major components that were implemented simultaneously. The two major components were individualized interventions and program interventions. In turn, program interventions included a parent/guardian engagement aspect and a sense of community aspect. I acknowledge a disparity between the interventions I proposed prior to beginning my study and what I actually accomplished. One of my research questions explores the documentation of the process of developing a more robust FAC support system, which is the reason for including the proposed activity. Chapter 4 will further explain the circumstances that led to the accomplishments, such as they were. Details of these various parts of the intervention, first proposed then actual, are described in the following section.

Individualized interventions. Much of the specific interventions comprising the mentorship program depended on the particular needs of each student.

Proposed individualized interventions. The actions I proposed to support individual students included (a) facilitating a goal-setting and planning workshop, (b) guiding students through focused self-reflection journaling exercises, and (c) engaging students in a growth mindset activity. With respect to the first example component, goal-setting and planning are critical self-regulatory learning skills for online learners, and are among the most challenging for them (Cho & Shen, 2013). For students whose scores on

the first survey indicated low organizational skills (per the items comprising the ESPRI organization construct) I considered involving them in an adaptation of the SMART Goals concept and character goal-setting exercise outlined by Maurice Elias (2014) (S = Specific; M = Measurable; A = Attainable; R = Relevant, Rigorous, Realistic, and Results Focused; T = Timely and Trackable). Then, with practice setting and maintaining goals, we would undergo a planning activity, engaging students to think both short- and long-term and make determinations about when and how to go about accomplishing both their curricular and noncurricular pursuits each week.

In terms of the second example component, students whose ESPRI scores were low generally, particularly on the items in the organization, achievement beliefs, and instructional risk-taking constructs, may participate in some guided self-assessment and self-reflection. The objective of this exercise would be to give students practice looking inward and considering their own agency and accountability for their actions and the consequences that may result from their actions. Students would practice articulating their feelings and beliefs, and then begin to identify ways they would work to improve behaviors or perspectives that are adversely affecting their schooling. Students would prepare a plan to begin to habituate toward those improvements.

With respect to the third example of the ways in which I proposed to potentially act as a mentor in my context, I considered initiating a growth mindset activity for students whose scores were low on the items comprising the achievement beliefs construct. The concept of growth mindset refers to "the belief that abilities can be cultivated" (Dweck, 2006, p. 50). Students might consider written personal narratives about times individuals overcame a struggle in learning and learned to solve the problem

and watch brief videos presenting scenarios where individuals are agents of their circumstances. Thereafter they would be instructed with guiding prompts to write a letter to a future student about a specific personal learning-related struggle, in which they explore their feelings about their own challenges, their own capacity to identify and reflect upon them, and then to overcome them.

Enacted individualized interventions. The actual innovation took the form of a higher touch personalized approach with students and parents, enriched by mixed methods profiles I developed for each student. It was proactive, but not regimented. I did not impose a time management model or a reflective journaling assignment on any student, for example. My effort became one of checking in, inquiring, guiding, and otherwise inserting myself into students' academic and personal life to a higher degree. It was essentially free form, with the exception of my recording notes of my interactions with students and/or their parents/guardians in reflective detail and with a plan of action for next steps.

I worked with parents/guardians directly to a much higher degree. I made a habit of either copying them on an email with their student, sending a separate email including the gist of my communication with their student, and/or phoning the parent/guardian. This responds to the approach proposed by Borup, West, Graham, and Davies (2014); the authors pointed out the vital role of parent/guardian engagement in their adolescent community of engagement framework. FAC's approach before had used these tactics, though less intensively, on an as-needed and reactive basis. For example, when students neglected their time logs, they could be sure to begin receiving emails from our Director

of Instruction and Technology, and, later, letters or calls from me. This new model involved intentional regular contact.

My guide, in addition to the knowledge of each student and his/her family, was the mixed methods profile I began to craft of each student in the study. Responses on the initial questionnaire (ESPRI adaptation) provided the foundation of the profile, as I organized information on each student in the general terms of those constructs. The development of each profile involved collection of course completion data including scores and timeliness, notes from interactions with student and/or parent, notes from communications with facilitators, self-reported activity within time logs, each Plan of Study, previous school records, and this study's data collection instruments (visual autoethnography if completed, the end-of-session survey, and interview if they participated). The analysis of these data points in combination yielded a rich sense of the status of each student in the study, which provided me with the confidence and material to attempt to connect with each student in different, more meaningful ways. The main function of initial survey data was to frame students' needs, but was limited in that it relied on students' ability to honestly assess their strengths and weaknesses in the online school setting.

Finally, I believe that the student interviews acted in part as an intervention, serving the dual purposes of collecting data and connecting with my students to build a meaningful personal relationship necessary for my emerging intimate student support role. I framed these meetings as an opportunity to touch base, reflect on the recent session (in a richer way than the end-of session survey requested), and collaborate on a plan for a more positive next session of courses. While I led these meetings, I positioned the

students to describe their development as online learners and their perception of their current circumstance. It was their prerogative, with my prompting, to candidly share challenges, strategies attempted which have been more and less helpful, and to consider the forces that might be available to them for additional support. One of the ways in which I elicited this thinking was to suggest a range of interventions that responded to the challenges the student expressed experiencing, and ask for feedback on what might be the most helpful and desirable. We closed the meetings with a plan of action that included responsibilities for both the student and me (and, to some extent, the parent/guardian).

Program interventions. As outlined in Chapter 2, an effective online education support system is multifaceted. A mentor's value comes a significant degree from his/her individualization of support. Those serving in this role can provide a great many services, but there are other evidence-based practices important to online student success that need not be delivered tailor-made for each student, delivered individually. This action research project addresses these needs, at least indirectly, through the mentorship program. In addition to the individualized interventions conducted under the auspices of the mentorship program, I conducted various program-wide actions. These included (a) connecting with parents/guardians to improve their ability to support their online learners, and (b) incorporating new mechanisms specific to students' sense of community.

Parental/Guardian engagement. With respect to parents/guardians, part of the proposed role of the mentor was to help parents/guardians understand the role they can play, particularly in terms of their motivational influence and power. Prior to the study, FAC required parental involvement at a minimal level. Parents/guardians had been encouraged to attend the enrollment and annual orientation(s) and become familiar with

the technologies and procedures elemental to their student's experience. They were required to read the handbook, state their agreement to school policies in writing, and monitor and "sign off" weekly on their student's activity logs. In addition to an accountability mechanism, this practice encourages parents to review their student's overall progress and performance. Parental involvement in students' schoolwork had been inconsistent from family to family. Although some parents have been highly engaged in the nuances of their student's plan of study and daily activity, most had hovered around the periphery, responding when problems were highlighted by program staff.

The intent of FAC's policies has been to allow parents to maintain a certain distance from the "management" of or tutoring for their student's online coursework, thus minimizing the home environment's complete infusion of the student's school responsibilities. This has been a recommendation from FA's Director of Exceptional Student Services, who has pointed out that, particularly for students who already experience high anxiety, having parents, untrained in learning or instruction, be intimately involved in students' schooling could engender an additional source of angst. Part of the effort of this action research project is to explore the role of the parent/guardian, and the role of the program to engage parents/guardians in their student's online education.

Among the specific interventions involving parents/guardians included reaching out to them for the explicit purpose of determining where support from them might be helpful, sharing tips for them to partner with the program and support their online learners at home, and collaborating individually on specific plans for their students. Such

guidance was initiated by email and applied, for example, to checking students' online coursework activity or working with their students to craft a life schedule that included weekly and daily coursework benchmarks, which I presented in extensive detail. I acknowledged in my proposal that in reaching out to parents/guardians directly in a more conversant and direct way, I might learn that they feel relatively incapable of working with the platforms we use for recording time, email, and delivering courses, for example. Their embarrassment may have kept them from asking their student or program staff. Such an issue likely would be surmounted with one-on-one time with the parent and a computing device (whether in person, by email, or over the phone). Depending on what I understood about each family dynamic, I variably encouraged both the student and the parent/guardian to work with each other: the student to explain to the parent the procedures and technologies of schooling and the parent to motivate, encourage, advocate, and monitor.

Sense of community. Online education must attend to students' sense of community to support students' learning, affective responses, and willingness to remain in the program (Rovai, 2002). All players in an online learner support system have a role in cultivating community. As such, teacher preparation, training, support, and supervision that emphasize building and maintaining students' sense of community through the application of specific strategies, were important in the conduct of the project.

A key guiding lesson was to enhance interactivity on all fronts for engagement and retention. To this end, mechanisms to build a peer community among FAC students were implemented and continue to be planned. First, there was the all-student FAC Orientation, held in August 2016, to which parents/guardians were invited. The three-

hour face-to-face event was peppered with "icebreaker"-type activities, purposefully moving students around, providing reasons for them to interact with one another. Students who were unable (either because of geography or psychological status) to attend could participate virtually.

Since orientation participants included returning students and new students, the agenda was tailored to be appropriate for a diverse audience, and included an extensive review of the online learning platform (which had recently been upgraded dramatically) and Google Suite, program policies and expectations, and lingering questions. I created a document (a shared Google Doc) to act as a singular resource for students (and their parents/guardians) for locating everything from handbooks, the calendar, staff contact information, Technical Support details, to tips useful for more successful online learning experiences. Orientation provided an opportunity to discuss this new resource, and it has since become host to mass emails I would send out reminding families about school protocol or addressing an oft-received question about the technologies or program. While much of this information was accessible on the FA website, I perceived value in creating a one-page guide within Google Drive to encourage students' regular use of that Google Suite.

We brought together students again in October for a meeting scheduled around school pictures. This followed participants' first survey submission, which enabled me to formulate a highly targeted agenda. I facilitated a group session where students addressed the highlights and challenges of their peers (generally), providing empathy, strategic suggestions, and sharing their own stories. This event included small group and whole group aspects, and was not limited to study participants.

I established an online student community, including all FAC students, using Google Classroom. A Classroom is structured somewhat like a discussion board, and "teachers" (designated administrators of the Classroom, in this case, myself and the FAC Director of Instruction and Technology) can create threads as announcements, assignments, or questions. With innumerable platforms as options for this, I deliberated a great deal on which to choose. The benefits of Google Classroom are multifold: it integrates seamlessly with Google Suite, which our students use regularly; the format is similar to what students likely will encounter in college; posts are automatically sent to student participants; it provides a way to include parents/guardians, who often request to be privy to program communications; and, unlike other social media, it provides a way for staff to categorize and retain posts. This latter feature is noteworthy, as we have often felt lacking for a "one-stop-shop" for school-related communications and materials.

Additionally, a voluntary peer-to-peer "buddy system" will be developed, establishing partnerships between students to help one another stay on task, motivate one another, celebrate accomplishments, and even cultivate a friendly competitive spirit around progress and academic achievement. The hope with Google Classroom is that students will use the "Student Community" thread, along with the non-academic posts from me and the other FAC Program Advisor, to begin to make connections online with one another. These interpersonal connections will help foster students' connections to the program and a sense of community.

An intention of this innovation is to increase students' "online learning readiness," as framed by the Educational Success Prediction Instrument (M. Roblyer et al., 2008). It is anticipated that outcomes will include gains in student academic

achievement and a positive shift in students' apparent sense of self-efficacy and satisfaction in their programs. The community of FAC will be stronger, and one in which students feel connected, included, and integral.

Research Plan

In alignment with the Dialectic Action Research Spiral, (a) this study is rooted in a problem, or "area of focus," I have identified within my context (primarily: full-time online learners' challenges with self-regulation) (Mills, 2014, p. 19). I propose in this chapter a research plan that includes (b) a data collection approach aimed at investigating this problem, and (c) "analyzing and interpreting the data" (Mills, 2014, p. 19). In this section, I sketch out how I intend to (d) develop and fulfill an "action plan" to address the aforementioned problem.

The simple framework of this action research project involves three study periods that revolve around a pre-intervention assessment, the beginning developmental stages of an online learner mentorship innovation, documentation, and practitioner-researcher reflection. The ESPRI-based questionnaire marked the start of the study, framing students' perceived strengths and weaknesses with respect to online learning readiness. Additional data collection involved assiduously documenting interactions with students and parents and communications about students and parents in my research journal, visual autoethnographies, an end-session survey, and interviews.

I proposed a study design that had a finite beginning and end, marked at each point by an ESPRI-based questionnaire; the intention was to apply this instrument in an evaluative manner, assessing the influence of interventions over the study period. My shift away from this pre-/post-test research design was due in part to the realization that

the study period should be longer (one year, for example) than what I had planned, in order to justify delivering virtually the same survey to students in the expectation of a detectable change. The decision to modify the study design was also due to an interest in sharing a documentation of the process of a highly personalized online learner support system for FAC. Literature on online learner support offers limited insight into the admittedly muddled process, including personal reflections of the professional(s) involved, the effort of trying different interventions, working with individual students, parents/guardians, and staff, evaluating effectiveness, and changing course as needed. I intend to apply a method such as the pre-/post-test one proposed through the future of the FAC program, conducting a similar survey at orientations annually.

I employed a convergent parallel mixed methods design, as described by Creswell (2013); my approach may be also described as the QUAN–QUAL model (Mills, 2014). Both involve (a) qualitative approaches, including the analysis of semi-structured interviews, participant writings on open-ended survey questions, the photo project, and email communication, as well as the use of photos, and (b) quantitative methods including Likert-scale survey items were used. They were "in balance," in terms of the analytical weight this study affords the findings (Mills, p. 7). As Mills noted, "The purpose of mixed-methods research is to build on the synergy and strength that exist between quantitative and qualitative research methods to understand a phenomenon more fully than is possible using either method alone" (p. 7).

Consistent with the expectations of action research, both the qualitative and the quantitative findings contributed directly to the development of the intervention, the "educational change that [ultimately] enhances the lives of children" (Mills, 2014, p. 13) .

For example, I planned for the potential that students might share ideas for sources of support I had not considered, either from the program or from home, and prepared to work to incorporate that student-unique information into each individual's mentorship plan and the overall approach of the program. By way of another example, I imagined that students might point out to me distractions or causes of their getting off track that had not occurred to me. Survey data, as I discuss below, helped identify students' areas of weakness in terms of online learning as framed by ESPRI constructs, which enabled me, in essence, to categorize student's needs.

Instruments

In this section, I describe each of my data collection instruments, and attempt to justify my choices. As indicated above, these were two questionnaires, participant visual ethnographies, and semi-structured interviews to collect qualitative and quantitative data. A general timeline for my data collection and implementation of interventions concludes this chapter. The table below summarizes the relationship between my research questions and data collection measures.

Table 1.

Methods

Research Questions	Measures	Additional Sources of Data
1. Which factors identified by the ESPRI (Technology skills/access/self-efficacy, Achievement beliefs, Instructional risk-taking, and Organization) present the most significant challenges for FAC students?	• Survey: Study-start (ESPRI-based—25 Likert-scale, 8 Demographic, 2 Open-ended) • Participant Visual Autoethnographies	Reporting on notes from personal communication with student and/or parent/guardian
2. What types of support do students feel would be most helpful to address their most significant challenge to online learning (parent engagement, teacher involvement, programmatic interventions, etc.)?	• Survey: Study-start (ESPRI-based—25 Likert-scale, 8 Demographic, 2 Open-ended) • Interviews • Survey: Session #3 Reflection (framed by ESPRI; 21 6-pt Likert scale items, 4 Personal, 4 Open-ended)	Reporting on notes from personal communication with student and/or parent/guardian
3. What would *documentation of the process* of developing a highly personalized online learner support system at FAC feature?	• Survey: Study-start • Autoethnographies • Interviews • Survey: Session #3 Reflection	Research Journal Analytic Memos
4. How has the *action researcher, herself, changed* as a result of implementing the development of an online learner support system process at FAC?	• Research Journal	Additional reflections by action researcher

Surveys. I requested that students in the sample participate in two surveys. The first survey instrument was adapted from the Educational Success Prediction Instrument (ESPRI), which was designed to assess students' online learning "readiness;" the

reliability of ESPRI-V2 (the version I adapted to create the instruments employed in this study) was found to be .92 (M. Roblyer et al., 2008; M. Roblyer & Marshall, 2002). Four conceptual constructs underpin the instrument, each of which offer some perspective into a student's competency in an area relevant to their experience in an online program: technology skills/access/self-efficacy, achievement beliefs, instructional risk-taking, and organization.

Technology skills/access/self-efficacy refers to the extent to which students have access to, use, and feel confident and capable using relevant technologies, primarily a computer and the internet. The achievement beliefs construct relates to locus of control, i.e., the extent to which students believe they have control over their lives, and to their general self-efficacy. Instructional risk-taking involves students' willingness to try things risking mistakes, failure, or judgment of their peers or instructor, and the comfort with which they perform new tasks, generally. The last construct, organization, relates most closely to self-regulatory learning skills such as setting short-term goals to achieve long-term ones, breaking large tasks into smaller, more manageable parts, and taking and maintaining organized notes.

The first instrument was comprised of 25, 7-point Likert scale items, ten demographic questions, including questions about students' extracurricular habits, as well as two open-ended questions. To illustrate the nature of the ESPRI, one item representing each of the four constructs is provided. One item that illustrates technology skills/access/self-efficacy is "I know how to use an Internet search engine to locate information." An example item for the achievement beliefs construct is, "I tend to persist at tasks until they are accomplished." An item from the instructional risk-taking construct

is, “I do not care what other people think of me if I make mistakes.” Finally, an exemplar from the organization construct is, “I find it easier to study for an important test by breaking it into subparts rather than studying the whole subject matter at one time.”

There were three negatively worded items on original ESPRI-V2, which I did not modify, and had to reverse score for analysis. These were “I am afraid of failure if I take risks” (Instructional Risk-Taking), “Many times, I lose interest in attaining the goals I set” (Achievement construct), and “I rarely set goals for myself” (Achievement construct). The open-ended questions provided an opportunity for students to write about their thoughts as they reflect on their online academic experience: what they find works well, by what they feel particularly challenged, and what sorts of support from which they think they would benefit (three separate questions). I changed the wording of one item on the original ESPRI-V2 in response to feedback from all of my previous cycles. The item was “I keep my notes on each subject together arranged in a logical order,” which I modified to “I take notes (hand-written or digital) on each subject” (both applied to the Organization construct). Students expressed that this seemed to contain two distinct questions (taking notes at all and keeping those notes in logical order). I regretted having made this modification, as it affected the validity of the instrument.

The second survey was administered at the end of a school session, and intended to provoke self-reflection as to students’ own recent online learning experiences, elicit students’ expressions of their challenges, needs, and hopes for the upcoming session, as well as to capture generally their development as online learners. The first two intentions of the survey were captured largely by the four open-ended questions. The 20 6-point Likert scale items were framed on ESPRI constructs, enabling some degree of

comparison between the first and the second sets of questionnaire responses. Additionally, along with each of the other data collection measures, this questionnaire was intended to be a metacognitive tool, encouraging students' thinking on and articulation of their own thinking, habits, and goals. The questionnaire opened with four descriptive questions, including "how long has your schooling been online?" and average GPA. Both questionnaires, including all items adapted from the ESPRI, may be found in Appendix A and Appendix D, respectively.

I expected that the online questionnaire format might be more appealing to some students than the interviews to express opinions or feelings; the written, digital, and asynchronous format might be suited better to some students' communication preferences, their proverbial "comfort zone." Moreover, including both open- and closed-ended questions on the survey instruments provided me the opportunity to "explore reasons for the closed-ended responses and identify comments people might have that are beyond the responses to the closed-ended questions" (Plano Clark & Creswell, 2015, p. 340). Students provided a confidential identifier that I used (a) to foster a feeling that their responses would be kept private, (b) to connect student information in school records with survey responses, which was important for the design of the interventions, and (c) to relate responses on the first survey to the second survey.

The first survey indicated which factors identified by the ESPRI (technology skills/access/self-efficacy, achievement beliefs, instructional risk-taking, and organization) presented the most significant challenge for FAC students (the first research question). Students' scores in each construct were expected to highlight areas of greater and lesser confidence in one's ability. For example, students responded to a total

of three items applicable to the Organization construct; if students whose scores on these three items combined were low (as determined by the study's scale) this indicated that they lack confidence in organization skills including chunking work, reasonable goal-setting, and organizing study notes. Also, the first survey asked students to consider the types of support they felt would be most helpful to address their greatest online learning challenges (the second research question). Students' responses ranged broadly to include parent engagement, course facilitator interaction, certain programmatic features, and student life, for example. The second survey, conducted toward the conclusion of the study period, was intended to check in with students, potentially detect a shift in students' perceptions of their online learning competency (due to both questionnaires' alignment with ESPRI constructs), and encourage them to express a goal ("to limit the challenges…faced in the previous session"), for the forthcoming session.

Participant Visual Autoethnographies. Complementary findings from the first survey were student submissions of a series of photos with accompanying written statements, referred to as visual autoethnographies or photo projects. These were used to elicit rich information about each student's circumstances and perspectives, and were invaluable for connecting with each student personally and formulating the precise interventions appropriate for each student. Through students' own "eyes," I would capture a glimpse of, for example, their study space, greatest distraction, and/or the resource at home that was most helpful for staying on track. The photo project was a metacognitive exercise, providing students the opportunity to reflect on their experiences and habits, as they related to their schooling practice.

Students in the study were invited directly by email, with a separate email to parents/guardians requesting help in the completion of this exercise. The framing of the request involved an explanation of the value of students' self-reflection, as well as the unique window it would provide program advisors in further developing personalized support. Students were invited with the expectation that I would follow up with them for clarification, further information, explanation regarding their photographic choices (including omissions), or other comments.

Participants were guided by instructions and a set of prompts to take a series of photos (five) and provide accompanying written statements that explain how each photo responds to the assignment prompts. This method offers students an opportunity to "capture aspects and events of their daily lives as these unfold" (Flick, 2014, p. 337). This provided insights into what was important to FAC students, particularly as it related to their online schooling experience, including for them what presented significant challenges. These data were useful in answering the first and second research questions, which inquired about students' most significant challenges and areas of support.

In this instance, students "[decided] the events or aspects worthy of photographing" instead of me, the researcher (Flick, 2014, p. 337). This data collection tool was chosen primarily for its ability to kick-start a productive conversation with students about their lives as online students, to help me understand better how they viewed their context, and what and who played important roles in their experiences from their perspectives. Photography as a medium increasingly has become a normalized part of the lives of learners of the age of FAC students. FAC students are of a generation characterized by their high degree of familiarity with technology, as discussed in Chapter

2. Many of—if not most—learners in my demographic from Generation Z use a variety of applications daily to engage in photo/videography of or about themselves or their environments. My intention was to use this tool in an attempt to "meet students where they are," and collect data representative of students' genuine sensibilities and feelings.

The purpose of offering student participants choice among prompts was in part to engender an additional sense of agency in the project. Leavy discussed the "narrative autoethnography" which, she explained in terms of a tool the researcher might employ, was "often used to explore interpersonal relationships, communication, and identity" (2015, pp. 52–54). This study offered this to participants to take ownership over their story and the way it was shared with the researcher in a way similar to "art journaling," wherein "participants creat[e] visual journals that may include text and images," guided by instructions from the researcher (Leavy, 2015, p. 241). Both the written responses elicited by the autoethnography prompts and the interview questions were semi-structured, allowing standardization across each student's response in conjunction with student freedom to interpret the discussion topics in a way that was personally meaningful.

Semi-structured interviews. In a mixed methods approach, interviews offered the researcher an opportunity to establish a personal connection with the participant, and attempt to cultivate an understanding of the participant's experiences from his/her perspective (Creswell, 2014). The semi-structured format enabled the researcher to organize the conversation generally around the research questions, while also encouraging the participant's original thought on the topics. This format allowed the

researcher to probe participants on their responses for more details or clarification, leading to a richer understanding of the participant's meanings.

Study participants were invited for interviews, following their submission of the second questionnaire (the conclusion of Session #3 of the 2016-17 academic year). My aspiration was to connect with a minimum of three students in the sample, though I was hopeful I could meet with each participant during the period allotted for data collection. These were framed (in addition to being interviews for this action research project) as meetings to check in, and reflect specifically on the previous session in greater detail in preparation for the upcoming session and their development as online learners. Due to the nature of the project, the interview protocol was tailored to each student, based on their responses to the two surveys and data collected over the study period. The general framework of the interview protocol was crafted jointly around the research questions about students' challenges and perspectives on support, and ESPRI constructs. The conversation was also used to elicit thinking on students' development as online learners and a goal to consider over the break for their upcoming session. An outline of the interview protocol has been provided in Appendix C.

Procedure

The first survey marked the beginning of the study. Instructions for the photo project were sent not long after the survey submission period closed. Students' scores, organized by the four ESPRI constructs, in combination with data gathered from autoethnographies, student records, and personal experience guided my initial efforts to develop plans to support individual students. I took detailed notes on interactions with and about students in a research journal, as well as my reflections as the leader of the

FAC student support development. The second survey was conducted towards the end of the study period, at the conclusion of student's third session in the present academic year. Interviews were the final data collection measure, and drew on data collected from previous instruments to make the conversations particularly meaningful.

Validity

Triangulation. This mixed methods study was structured to ensure internal validity. Triangulation is critical in this regard (Creswell, 2014): The combination of the quantitative data from the questionnaire and the qualitative data from ethnographies and interviews offered a rich perspective on students' experiences and enhanced my ability to discern what students' weaknesses were, where their real challenges laid, and how they might best be supported. I was able to triangulate, or study the connections among the "different data sources" (qualitative and quantitative) looking for convergence or discrepancies in emerging themes, and "build[ing] a coherent justification of [those] themes" (Creswell, 2014, p. 201).

The visual autoethnographies, and accompanying narratives and interviews, were an opportunity for students to express what they found challenging about their program, which served as data for the first research question, and reflected upon and responded to prompts about what types of support might be particularly helpful to address these challenges, which served as data addressing the second research question. Although this was not participatory action research, it engaged the subjects of the research in a level of data collection participation. In conjunction with using the data participants themselves collected, I employed "member checking" and provided a "rich, thick description[s] to convey the findings" in Chapter 4 (Creswell, 2014, p. 201). Member checking is the

process of sharing with participants for the purposes of "determin[ing] the accuracy of the qualitative findings" themes, major findings among the data, and/or parts of the product the researcher believes have emerged (Creswell, 2014, p. 201). Interviews provided a venue well-suited for requesting feedback on the perspectives I garnered from the first survey and the autoethnographies.

Threats to validity. I identified three potential threats to the validity of the study as proposed. First, attrition was likely to be one of my most significant threats to validity. Attrition or mortality is incredibly high in online programs, including ours; many families of students in our population see enrollment as a way to get through a short period of struggle in the student's schooling, for example, social anxiety felt in the 7th and 8th grades, and, generally, their plan is to return to a brick-and-mortar school. Some families have come to FAC because of extant or emerging mental or physical health issues that affected schooling in their former setting. These issues can, as they have with students of ours in the past, cause students to leave our program, as well because parents must devote all of their resources to their student's well-being. Other than doing my best to minimize attrition, I attempted to maximize the validity of my study in this regard by focusing significant effort on collecting relatively extensive and varied data on participants. The ultimate number of participants would be less relevant, since the focus was directed towards gathering rich data on those who did engage.

Second, maturation may threaten the validity of my study to some extent. This refers to development of the individual, including physiological or psychological development that may have occurred irrespective of the intervention over time, that is to say, changes that are "internal to the research subjects" (Smith & Glass, 1987, p. 128).

Given the limited time frame of the study period, it seemed unlikely that students would develop significantly improved habits and skills for the online context due to their everyday practice in the program. I acknowledged at the outset of the study that students' daily efforts in the program would help them develop their "online learning readiness," including in the particular areas of research interest, for example, self-regulation. I attempted to maximize the validity of my study by ensuring that my documentation practice was extensive, providing transparency and candidness, and that I discussed with students during interviews their perceptions of their own development as an online learner. Since I abandoned the pre-/post-test approach, it seemed that what was a potential threat became integrated into the documentation of the online learner support system development process (Research Question 3).

A third threat to the validity of my study is that I enhanced my role as a support for students, prior to conducting the initial survey. I could not ethically or practically, not improve my practice supporting students as I learned ways in my research because I had to wait for conducting the first survey following approval of my study from the ASU Institutional Review Board or my dissertation committee. It is an important element of my job, and, since I returned from maternity leave in fall 2015, I realized increasingly that even basic support for students was insufficient. This contributes to this study's risk of suffering from the threat of the treatment being insufficiently "intense to produce an effect" (M. L. Smith & Glass, 1987, p. 136). The study design oriented around documenting the process and my reflection, rather than attempting to detect a change engendered by the interventions between the study's first survey and the second survey, would mitigate the implications of this potential threat.

Data Analysis

The data analysis process for this mixed methods study included extensive triangulation, which was the basis for the mixed methods profiles of individual students, studying the relationship between the results of the two surveys, and transcription for careful review of interviews and other qualitative data, as well as extensive use of the research journal and analytic memos (Saldana, 2012, pp. 41–42). As noted above, in pursuing validity and reliability for this convergent parallel mixed methods study, triangulation was critical (Plano Clark & Creswell, 2015, p. 364). Creswell explained this validity strategy in this way: "Triangulate different data sources of information by examining evidence from the sources and using it to build a coherent justification for themes" (2014, p. 201). Surveys, visual ethnographies, narratives, and interviews offer a substantial range of types of evidence with which to corroborate ideas I witness emerging from the data, and "ensure that the themes [I find] are credible representations of people's experiences and perspectives" (Plano Clark & Creswell, 2015, p. 364).

Qualitative data analysis. The proposed study involved a robust coding process, organized by analytic memos. The study conducted did not warrant coding, as the approach was so personalized; coding would imply that I was trying to determine common strands and/or develop broader implications. With the small sample size, and the priority on detailed individual student profiles with the limited number of student participants, coding was no longer appropriate.

During each of my previous cycles, I persisted through at least first and second cycle coding stages, using a combination of structural and descriptive codes, as well as subcoding (Saldana, 2012). The codes in these iterations were based on ESPRI constructs

including achievement beliefs, technological skills/access/efficacy, instructional risk-taking, and organization. In these previous cycles, I interviewed part-time online learners, high school students at Foothills Academy College Preparatory who were enrolled in 1-2 online courses. In the semi-structured format, we explored together what the experience of their online coursework was like, what they favored and were challenged by, and what about their learning styles, preferences, and perspectives were relevant to this experience. My intent was to experiment with and sharpen my interview approach and protocol.

As I progressed in my study, my orientation changed somewhat, and the questions used in those interviews were not as relevant to my study going forward as I had anticipated. For example, with the transcribed interview data from my spring 2015 cycle, I developed a code book with eight codes ranging from 01.STU, student reflects upon whether or not s/he feels s/he is a good student and if s/he works hard, as well as what "good student" and "hard work" means [subcodes: 01.STU.02, 01.STU.03, and 01.STU.04]), to 10.SRL (self-regulated learning: student describes thinking about own learning process; planning (or not planning) for school work (high-level, longer term); taking control of, evaluating, and, perhaps, adapting behavior [subcodes 10.SRL.01 and 10.SRL.02]), to 05.HARD (student has expressed what about the online courses is challenging). Additional codes included references to their online learning experience in recent course, in general, specific references to aspects of course delivery struggled with, and issues with faculty communication; this did not include references to challenges with course content or subject area). I struggled to make sense of this coded data in terms of ESPRI categories, which I intended to use to develop the specific interventions for the online learner mentorship program.

Instead, my dissertation orientation was guided by them, better understanding how to use the conceptual categories articulated by ESPRI researchers, most relevant to online learning. In my sample level analyses, I collected all responses to each open-ended survey question and noted whether there were issues or perspectives repeated from student to student. I included written responses and analytic memos from the autoethnographies and interview transcriptions once complete. Individual data analyses were the most meaningful, as is the nature of this action research project. Each instrument provided an additional layer of detail enabling the development of a rich student profile. As will be evident in Chapters 4 and 5, while my analysis was framed by ESPRI, my main focus was on the Organization construct, which was undeniably most applicable to my sample's online learning experience.

Quantitative data analysis. To analyze quantitative data from each questionnaire, I used Excel primarily. I used the statistical analysis software, SPSS, as I did in my previous cycles, for an alternative analytical tool, providing slightly different perspectives and ways of presenting data. I first conducted an analysis of the first questionnaire data in terms of each ESPRI conceptual construct for each individual and for the sample as a whole. I presented the data in multiple ways, in part to understand each student's responses in and of themselves, and relative to their peers in the aggregate and in terms of each construct.

Finding these numbers was to point to areas in which students felt they were weaker or stronger, as it related to their experiences as an online student. For example, a student with a high score in technological skills/access/efficacy would not need support locating or using a computer and the internet, navigating the courseware, or figuring out

basic computing issues. A student who scored low on the items comprising the instructional risk-taking construct might need support from the program in becoming more comfortable reaching out to and communicating regularly with his/her course facilitators, or requesting appointments for content help or extensions when more time was needed near a session's end. My role in such a situation was also to inform facilitators that this student might require more direct outreach, or to know that if communication was terse or not happening, that parents/guardians should be included.

Mixed methods profiles. The innovation at the heart of this action research project was the expression of individual student profiles characterized by a mixed methodology, used to formulate a highly-personalized student support system. I demonstrate the crux of this innovation in Chapter 4 by both (a) summarizing the process of data collection and analysis (partially responding to Research Question 3), and (b) concisely describing selected student profiles. The quantitative analysis involved comparing students' scores on the Likert-scale items (in both questionnaires organized by ESPRI constructs), noticing any change in individual and population-wide data within each construct. The primary measure was the mean, with a description of outliers or other noteworthy circumstances. For example, if "Marjorie" scored low on achievement beliefs on the first survey, and her score was higher on the second survey for this construct, I might be able to point to either her perceived development as an online learner in terms of academic self-confidence and sense of self-efficacy. Qualitative data from student interviews, autoethnography submissions, and open-ended survey items enriched my understanding of each student. I used my research journal and student records from Foothills Academy's Student Information System to construct an in depth story about

each student. From this mixed method narrative, I crafted suggestions for my support efforts.

In the following table, I have presented a timeline for my research process, beginning in the summer of 2016.

Table 2

Approximate data collection time frame.

Approximate timeframe	Activity
August 2016	Held FAC Course Facilitator Orientation (face-to-face and remote, with live GradPoint Trainer session; focus on personalizing the FAC student experience)
August 2016	Held FAC Student Orientation face-to-face on FACP campus (new and returning students; remote attendees on Google Hangout; some parents attended)
September 2016	Conducted first survey (an adaptation of the ESPRI).
September 2016-January 2017	Targeted at least weekly communications with each student and parent/guardian regarding progress, appropriate online learning strategies, and developing a personal work/life schedule. Continued extensive research journaling and analytic memoing.
October (mid) 2016	FAC Student Meeting (face-to-face discussion and activities based on responses from first survey).
October (end) 2016	Sent autoethnography invitations.
November (beginning) 2016	Received autoethnography submissions, began analysis, and sent personalized responses.
December (beginning)	Participated in ASU Education Doctoral Research Forum. (Presented a preliminary synthesis of findings and activities.)
December (mid) 2016	Conducted second survey (end of Session #3).
December (mid) 2016	*Sent interview invitations.*
December (end) 2016 / January (beginning) 2017	Conducted interviews (personalized protocols based on second survey responses).
January (beginning) 2017	Held FAC Student Meeting face-to-face for AZMerit Test Preparation Seminar (3 students attended via Google Hangouts) and checking in.
January 2017	Continued support activities for FAC students, including personal check-ins by email and communication by text; direct communication with parents/guardians.
January-April 2017	Conducted final analysis of mixed methods data collected; developed synthesis to report sample-wide findings and demonstrate in three unique student profiles
March 2017	Held Dissertation Defense
April 2017	Participated in ASU Education Doctoral Research Conference

The purpose of this action research project was to use the ESPRI as a tool to identify FAC students' areas of weakness, target them with an online learner mentor program, and document the process, including the development of practitioner-researcher. The primary innovation was the formulation of mixed methods profiles of individual students, and beginning to develop a highly targeted online learner support system aligned with each profile. Anticipated project outcomes also included understanding the most substantial challenges FAC students face in their online schooling, identifying what influences FAC student achievement, satisfaction, and "readiness" for online learning, which are related to the ESPRI, and developing a substantial enhancement to the student support system.

CHAPTER 4

RESULTS

In this chapter, I report on the results of this action research study, including data collected from each survey, visual autoethnography submissions, and interviews. The first section provides an overview of the quantitative data collected from the entire sample, and the second section provides an overview of the qualitative data collected from the entire sample. The succeeding three sections are mixed methods profiles of three students in the sample. They highlight data collected in each survey, the interview, the photo project if submitted, and personal communication and research journal reflections. Reporting on individual data analyses are largely reserved for these sections. These profiles are demonstrative of the crux of this action research project: collecting and analyzing various types of data on FAC students to compose a mixed methods online learner profile for a personalized support plan.

As the narrative demonstrates, the mixed methods inquiry was worthwhile for the purposes of beginning to connect personally and meaningfully with students and their parents/guardians. The different types of data collection instruments, in conjunction with an extensive research journal involving reflection and strategic self-inquiry, served to kick-start relationships and straightforward conversations about the online schooling experience. Equipped with varied ways of "hearing" from students (in Likert-scale format and in writing on the questionnaires, in person or remotely at student meetings and in our interview, and through photography by way of the photo project), I was better able to engage with students. They began to feel more comfortable with me, evidenced by their

increasing communication with me and openness about their progress and mental or emotional states.

Quantitative Data Analysis: Whole sample

September 2016 Survey (ESPRI adapted). Of the ten students in the sample, nine students responded to the questionnaire, delivered in September 2016. Each student provided an answer to each question. Respondents were between the ages of 13-17 (44.4% were 15 years old), and spanned grades 8-12, with the majority in grade 10 (5 students, 55.6%). Just slightly over half were female, with a reported grade point average of B. The majority of students indicated that they did not attend campus or work (44.4% responded "Never"; 44.4% responded "Have not yet, but I intend to this year"; one student responded "Occasionally").

All respondents indicated having taken an online course prior to the survey. None of the students reported having jobs, though two-thirds indicated they had a hobby of sorts that consumed a substantial amount of their time and energy. Most students indicated that they take notes (more than half chose Agree or Strongly Agree to the item, and one-third indicated Somewhat Agree). The top three most challenging aspects of being an FAC online learner according to participants was (1) Staying on Task (66.7% of students chose this option); (2) Achieving the required weekly 30 hours of coursework (55.6%); and (3) Setting and sticking to a schedule (44.4%).

Analyzed as a whole, students' scores on items in Technology skills/access/self-efficacy indicated confidence. No student had a mean score on items within this construct lower than 4.40. (The student with this comparatively low score is highly proficient with computers and other technologies, which alludes to the value of mixed methods

analyses.) Students demonstrated the second highest level of confidence in items in the Organization construct (mean score of 4.48 and a median score of 5.00). The lowest score was a 2.67, indicating this student's awareness of his own challenges with self-regulated learning skills, for example. Students' scores yielded the third highest mean score (4.28) on items related to the Achievement Beliefs construct. The lowest score was a 2.67, relative to the highest which was 5.83, indicating a range of self-perception among the sample. Instructional Risk-taking items yielded the lowest mean scores, ranging from 2.00 (i.e., Disagree) to 5.33, but with a median score of 3.33. The following chart provides an elementary visual of the scores the FAC sample reported by ESPRI construct.

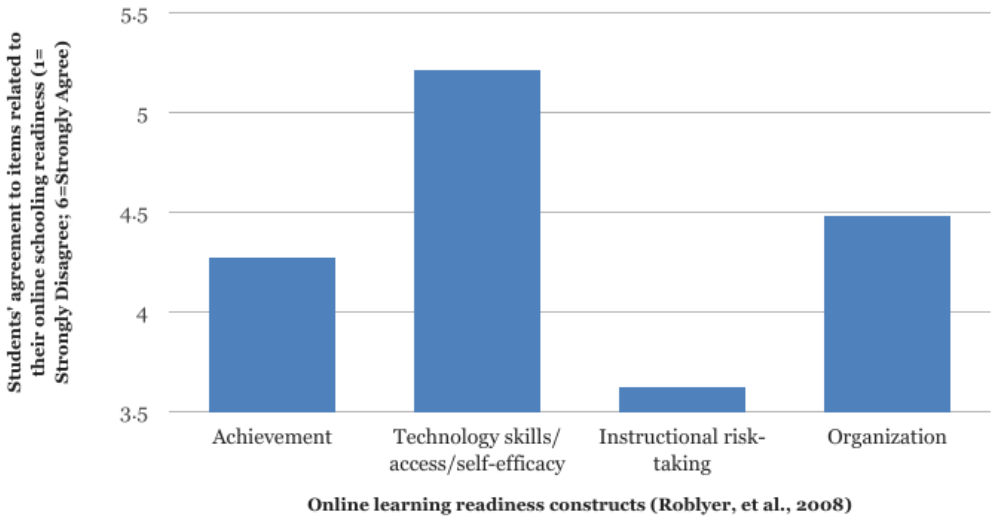

Figure 1. FAC sample online learner readiness questionnaire responses organized by ESPRI construct

December 2016 Survey. Of the ten students in the sample, eight responded to the second survey in December 2016 (at the end of students' Session #3 of the school year). Students represented grades 8-12, with four of them in 10th grade. The average and

median amount of time students indicated their school had been online was approximately two years. Five were female, three were male. They reported an average combined grade from the recent academic term (Session #3) to be a B.

With the caveat that I constructed the second questionnaire without the kind of rigorous external validation ESPRI researchers used, I developed each item with careful consideration of the intention of each ESPRI conceptual category. The results indicated much less variation across the constructs than the first questionnaire. I am not confident whether the results were attributable to a poorly constructed survey instrument or that the interventions had already started to influence students' confidence in their online learning readiness. There was a median score of 5.00 across all items. As with the first questionnaire, students' mean scores were highest on the Technology construct (5.00), a median score of 4.80, and three students scoring 5.60. This suggests relatively high confidence in this area. The overall mean score on the items in the Achievement Beliefs construct was similarly high (4.94), with responses ranging from 4.50 to 5.50. Instructional Risk-Taking and Organization mean scores were close (4.75 and 4.70, respectively), not far behind the other two. As with the first questionnaire, the lowest scores emerged in Instructional Risk-taking items, with two students scoring an average of a 3.00 and a 3.75. The following chart provides an elementary visual of the scores the FAC sample reported by ESPRI construct to this second questionnaire.

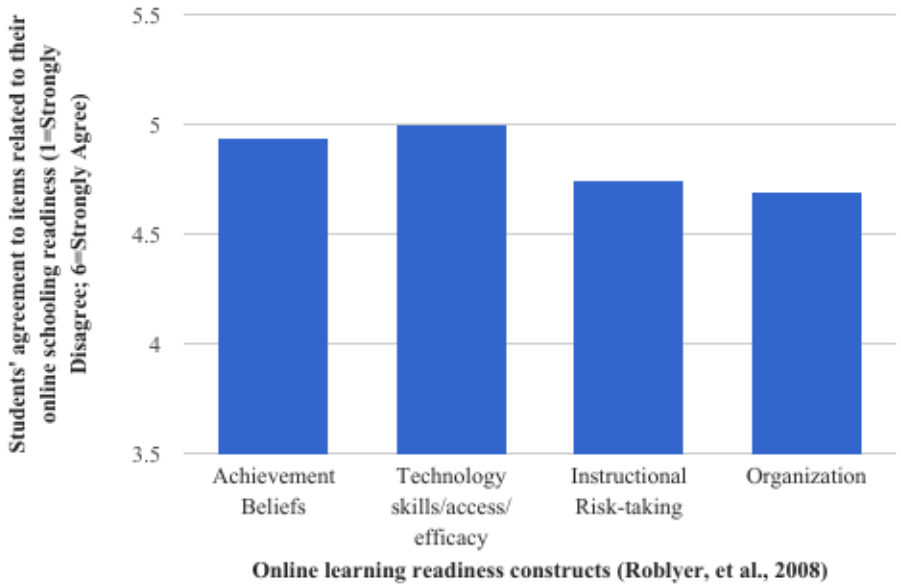

Figure 2. FAC sample responses to second survey organized by ESPRI construct

Qualitative Data Analysis: Whole sample

This section provides an overview of the qualitative data collected from the sample. The sources of data include responses from the open-ended questions on the first and second surveys, the visual autoethnographies, interviews, and personal communication with participants and their parents/guardians (Research Journal). The findings are presented in order the data were gathered.

September 2016 Survey. The qualitative data I elicited from the first questionnaire was focused specifically on students' greatest challenges and the ways in which they could think of being better supported. As to the former, the first question was set up for students to choose among options and/or write in a blank. The most selected option (by two-thirds of respondents) was "Staying on task (avoiding distractions or redirecting your focus quickly back to school work)," followed by "Achieving the

required weekly 30 hours of coursework" (55.6%). Students elaborated on their selections. Though each comment was unique, and this action research project is not about finding the commonality, it is worthwhile to observe whether some students share similar challenges. The thread of staying motivated and staying on task ran through the comments, either on account of boredom, lack of motivation (for schoolwork, and finding other things more interesting), or having already accomplished their work tasks for the day and needing to continue to log hours to meet the weekly average minimum. Two students made comments about the minimal interaction with peers.

In preparation for an all-student meeting after all submissions from this questionnaire were received, I formulated a set of questions to prompt discussion among students, including,

- How to combat boredom (ask students what strategies they use)?
- How to combat temptation of other things [literally] at your fingertips while on the computer (ask students what strategies they use)?
- What to do if you feel alone/isolated (ask students what strategies they use)?

At least two mentioned course facilitators not being in contact or that it would be helpful if they were in more contact with them. Other questions included "What do you do when you have an issue with the online learning platform or a question about a course of the program?" Students shared verbally with one another their perspectives on these topics, and discussed what works well for them in each situation (an activity done in smaller groups and with the whole FAC population).

The second question related to how students felt they could be supported better, which elicited some mention of delayed responses from course facilitators. Most of the

responses demonstrated students either taking direct responsibility for their experience or not expecting help from any other source than themselves. This was a surprising finding. Three students wrote that they are very well supported by their families, to indicate that they could not do more than they are doing already. Three students stated explicitly their responsibility, e.g., “I think it's entirely my fault and that I am well supported. I just need to get over it and do another hour of work each day. Easier said than done though.”

Visual Autoethnographies. Though just three students provided a submission, the results of the visual autoethnography exercise indicated to me its value. The submissions were a peek into students’ homes, their online learning environments. Just three students provided a submission, even though I sent direct requests up to three times by email and, in some cases, telephone.

Among the three students, each of the prompts options was chosen. All three students chose to answer the three questions: Where do you do your online coursework, primarily?; What (or who) distracts you?; and, When do you work on your coursework? This permitted some degree of reflection across the submissions, although it was limited given the low response rate. In the following section, I focus mostly on the results of these submissions.

Two of the three students indicated that they had a specific place they set up for their coursework, either a desk in their room or a desk in a family office room. The third student stated more generally that she does her work "at a desk or table of some kind. I stay organized and I stay focused easier." These were the most illuminating of the photos provided, as a bit of each’s home environment or learning space, in particular, was visible beyond their computers. For example, one student with whom I have been unable to

connect much, I could glimpse the color of his bedroom walls, the items he kept on his desk (e.g., a small snow globe, in addition to various beverage containers), what he looks at beyond his window, and his patterned bedsheets. The next slide was of his cat on his office chair (responding to one of the assignment prompts, "Does someone help or work with you? Who?").

Two of the three students indicated the distracting quality of their phones and other electronics (e.g., TV, Netflix) to them; the third student stated that he rarely gets distracted, but when he does anything is a contributor (he said that to avoid distractions he will even close the blinds in his room). Put simply, this student wrote "Being an online learner ... makes it easier to be distracted. However, it also allows you to find ways to remove the distraction."

As to when respondents do their coursework, each said that they begin in the mornings. One student expressed being challenged by this. She explained (with no photo) that while she intends to have a daily work schedule beginning first thing, she finds herself stuck in a pattern preventing this. In her words,

> What stands out most is that although I try to get up early and get my work done, it rarely happens. I find myself working late at night the majority of the time which sometimes disrupts my sleep schedule. I feel as though I have gotten in a cycle that does not allow me to get up early in the morning. Maybe someday I will get this straightened out :).

Another student photographed a quart of milk and a container of oats by way of setting up that she begins work in the morning, and returns to it early in the afternoons. This same student, however, reflected on one of the latter slides for this purpose: "What stood

out most to be [*sic*] is that I don't have a consistent time when I work on my courses. That is one of the great things about online learner though, not having to be somewhere every day at a certain time and having your school fit your schedule." This student is very serious about the rodeo, which is what I know a substantial portion of her time not spent on school is spent on. The third student took a photo of a large clock near the kitchen of his home (as visible in the background) marking 9 o'clock, to help explain his work begins between 8:30 a.m. and 10:00 a.m., and usually wraps up by lunchtime.

The two reflection slides that closed each submission offered noteworthy insights, including some quoted above. One student (previously described as a low communicator) wrote in response to the prompt "Please describe what stood out most to you about your habits as an online learner, through this assignment (2-3 sentences):" "What stood out to me most is that I work independently. I work alone and with little input from others." This spurred my realization that among the fifteen photos these three students collectively submitted only one photo displayed a person. Except for the comment "The area that I work in is a shared space, so having my family members in there working can distract me as well," there was scant other people. The slideshow that displayed a person in a photo was of the student's older brother, who helps with some of the math and science concepts by which she is particularly challenged. She also, in a later slide, mentioned that her "favorite part of the day" is volleyball practice or games, in part so that she can be "social with [her] peers." Due to the very small sample, I cannot comment broadly, except to consider the highly autonomous and solitary nature of FAC.

December 2016 Survey. Though the objective of this action research project was to identify individual needs and individualized, targeted interventions, it was helpful

to look sample-wide and attempt to discern what is challenging for students as a sample, and permitted me to somewhat improve the efficiency of my support efforts. A summary of what I noticed from students' responses to each of the four open-ended questions follows. Two students did not respond to all of the items; otherwise, all items were given an answer by participants. The first item was stated so that students could fill in the rest of the sentence however it suited them: "The hardest aspect of Session #3 for me was…" For this item, I noticed little commonality across responses. Students remarked on specific classes, either the workload (2), understanding what the assignments required, or maintaining interest. One remarked that filling out the time log was the hardest aspect. Time management and keeping focused were comments from two other students.

The second item was structured similarly: "My online learning experience would be improved by…" Aside from the student who remarked that her "experience was very good," five students made comments clearly in the domain of "Organization," as framed by ESPRI researchers. These comments are self-regulation oriented; for example, "a more rigid schedule, imposed by myself/my parents/the school;" "setting a weekly schedule;" "being able to stay on track with my assignments;" and "I should really go to work with my mother more often because that is a place I can get projects done well." Also, at least two mentioned the limited social interaction/school events in which to participate.

A third item sought for students to articulate some kind of goal for the upcoming academic term (Session #4): "Next session, my main goal to limit the challenges I faced in the previous session, is to…" This item was part intervention (spurring students' serious consideration of their agency in their learning experience) and part information

gathering (where can I and the FAC support system, including parents/guardians, contribute targeted support to the learner?). The item sought an insight into what students were thinking about for the next session to make for a better experience. Again, as with the question about what might improve a student's experience, self-regulation dominated the comments students in the sample expressed. Motivation (staying motivated), weekly schedule (implementing one), time management (being on top of course due dates), staying on task, and persistence were the primary notes. One student stated her intention to write more notes next session.

The final open-ended item was unrelated to online learner readiness, and instead reflected an effort to learn students' academic likes and help me express to them that their relative enjoyment of their schooling experience was important. The item read "My favorite thing that I learned about during this session is…". Some students shared some interesting topics, such as covalent bonds (in her Chemistry course), detailed modern history (in U.S. History), "everything in geography was really interesting," or the whole Introduction to Psychology course. Just one response was less than positive, "I don't really have a favorite. I'm not a fan of drawing(art) and I don't like math."

Interviews. I conducted interviews between December 29, 2016, and January 3, 2017. Though the precise questions were tailored for each student, an outline of protocol is located in Appendix C. The interviews were set up like "check-in" meetings, less like researcher-subject interviews, ultimately. The intention of this was to ensure the experience was worthwhile to students, using it as part of the interventions to support their readiness for success in the program. Two of the meetings were joined by a parent, (mothers). Although, the invitation was not extended to parents/guardians, except to

request their help connecting their student with me for a meeting, I was unwilling to make a point out of this at the time. Each student and his/her parent/guardian received an interview request by email through a mail merge program that tracked receipt of the message, and at least one follow up reminder of the request. I had anticipated recruiting more students for an interview, and even had one set up who did not show or respond to phone or email inquiries about our missed appointment.

I connected with three students—one on the telephone and the other two in person—were female, two were in the 10th grade and one in the 11th grade, and they between the ages of 14 and 16. These students who were interviewed shared some common issues, revolving around planning and sticking to a work schedule that suited them and staying on task. The concern about a work plan included having personal time or setting and meeting personal goals, as part of that picture. Otherwise, their circumstances and personalities were distinct.

One student is a pre-professional dancer whose dance schedule was demanding. She struggled with motivation for school work and staying on task. She did not work particularly efficiently (according to her mother, in particular). She determined that both a tighter weekly schedule and a positive growth mindset, in her characterization, one fueled by her recent success. A second student had struggled with staying on task and meeting session end dates, but was recently motivated by a clear goal. She indicated satisfaction with her current situation, including communication with program staff, though thought a weekly schedule with a check-in would be worthwhile. The third student struggled with anxiety and depression, for which she had a clinical diagnosis and was being seen. Her main challenge with online learning related to motivation and

battling a feeling of being overwhelmed. She felt that regular communication with me, based on a weekly schedule she would craft, would be worthwhile.

Mixed Methods Profile #1: Christy

This section presents the first of three mixed methods profiles, a kind of vignette of a student from the perspective of data collected, including my personal engagement with the student. This first profile will be referred to as Christy, who is a 10th grade female. Christy was a full-time online student by choice, on account of tremendous anxiety and depression. She reported in September that her GPA was in the A range, and her average score on Session #3 courses would be an A, which was accurate after a week extension. The aspects of online schooling that work well for her she described largely in terms of the freedom. In her words, "I like the freedom that comes with online schooling. There are no strict rules on how I am supposed to learn and take notes on the content given to me. I think I learn more efficiently now that I am given content and have to remember it in a way that suits me. I also have the freedom of going at my own pace. Yes, there is deadline for my courses but, I can do as much or as little as I want in a single day as long as I reach the deadline at the end of the session."

She was very bright and driven to earn good grades and be viewed by others as a strong student. I was aware of this from extensive face-to-face interactions with her mother and her, as well as by email and on the phone. She came from a family that cares about school, and had apparent resources of time, finances, heart, and knowledge to support her and her siblings. Her response to Achievement Beliefs items on the first questionnaire indicated confidence (5.5 mean score). In September, she indicated she was challenged by nearly every aspect of online learning, in particular that she struggled to

get started working, procrastinated, and got distracted, though she recognized that impeded her ability to be really absorbed in learning the content. Setting and adhering to a regular schedule so she could stay on track with assignments was a critical challenge, which she expressed again in her responses on the second survey in December and her photo project submission. For example, "I would advise any new online learner to be sure that they [*sic*] keep up with incoming assignments. It is extremely easy to get behind on the coursework if you do not commit a certain amount of time each day. Getting behind can be very stressful." However, on the first survey, she indicated relative confidence in the area of Organization (5.33 mean, relative to the sample mean of 4.48).

Though she indicated missing social interaction, she shared in her photo project submission that her favorite part of the day was when she could attend volleyball practice or games. I discussed with her mother the importance of the sport for social interaction and this student's overall well-being. During our email communication following this submission, I learned that she was considering and then, later, that she made a local club team, when the school season ended.

She would have appreciated more attention from course facilitators, though her score on Instructional Risk-Taking items was low (2.00 mean). She expressed that her inability to leave home for on-campus appointments, or struggle reaching out to course facilitators adversely affected her experience, though she wished there was some way she could access instructional support. She wrote, "I feel I am teaching myself all my courses completely alone and sometimes this is difficult, however it is my situations that keeps me from getting help, the course facilitators are doing nothing wrong." Her photo project

submission displayed her older brother as her main supporter in terms of learning content, primarily in science and math.

During and after the interview (including from her mother), I learned that her brother was leaving soon for college which was an additional source of anxiety. Following the interview, we discussed these concerns and strategized how she might find the support she needs elsewhere and what adjustments we might make to her plan of study to better align with her needs. She spent a week developing a weekly work schedule, around which I would connect with her. We connected in a meaningful way on account of these interventions, and I began to be better able to support her in critical areas such as ensuring she was receiving needed support from facilitators even when she did not specifically reach out to them for it. Having a volleyball schedule around which to build her work schedule was helpful; students who had no commitments outside of school tended to be more challenging to help craft a work schedule.

Mixed Methods Profile #2: Elizabeth

The second mixed methods profile is for the 11th grade female student referred to as Elizabeth. She reported her GPA to be in the B range in September, and expected her Session #3 score to be in the B range, as well, which was essentially accurate. Of the data collection instruments I delivered to students, she participated in all but the photo project. This student demonstrated remarkable growth as an online learner over the study period. Elizabeth's responses on the first questionnaire in September 2016 indicated moderate confidence in her readiness for online learning (and mean score of 4.09). Her greatest confidence was in Technology (5.7), with much lower levels of her sense of readiness with regards to Achievement Beliefs (3.83), Organization (3.67), and Instructional Risk-

Taking (3.17). The student came to us in November 2015, and verbally expressed a higher degree of motivation and self-directedness than she was able to perform as a student. She had a history of homeschooling, which boded well for her ability to succeed in an online environment, and her mother worked at home part-time. However, her mother was relatively disconnected from Elizabeth's schooling, and the student was taking full advantage of the freedom. They were difficult to communicate, were generally unresponsive, and neglected time log entries more often than they complied with this requirement. I spent significant effort, in part because I am well aware of the critical role of the person nearest to the student, and in part because I learned from Elizabeth's response to the first questionnaire that she thought her mom could be more engaged in monitoring pace and progress.

She identified a clear goal in fall 2016, which had a tremendous impact on her motivation and ability to manage her time. This helped focus a mind that was untethered by any clear passion or hopes for the future, short- or long-term. She made the determination that she would return to her former high school, a face-to-face environment, and have her senior year and graduate with her childhood friends. I learned this information in our interview in December, though I had attempted to connect with her by way of email multiple times as well as contacting her mother by phone over the intervening weeks and months. Her mother asked me some pointed questions in early October regarding Elizabeth's Plan of Study, which indicated that she had been thinking about her schooling plan for the current year and the future. This was the first the student had been engaged in this way, so I was eager to follow up. The mother only confirmed when I had answered the various questions effectively; otherwise, I did not learn more as

to Elizabeth's thinking. The interview was very valuable in this regard. Given her relatively low Instructional Risk-Taking score, I was prepared for limited communication, but was surprised not to receive any response to direct questions.

When Elizabeth responded to the second questionnaire, not only was her mean score (4.67, relative to 4.09) higher, but her scores in each of the conceptual categories (except Technology) improved. Her responses to Achievement Beliefs (4.50), Organization (4.57), and Instructional Risk-Taking (5.00) indicated that the student may have developed an improved sense of her abilities relevant to online learning. We discussed her comfort level communicating via email, which was my opportunity to point out her lack of communication with me by way of email. She said she felt quite comfortable, and that, in the case of my emails, she did not see a need to respond. I thought that, perhaps, she would prefer a different mode of communicating, such as texting, but in the questionnaire, she selected Somewhat Disagree (3) to the item "I would benefit from program advisement communication through text messaging," and stated in the interview that no other media was desirable for such interaction.

The main concern around the period of the first survey was boredom and the struggle to stay on task. With regards to what she found most challenging about online schooling, on the first questionnaire she chose the options "Staying on task (avoiding distractions or redirecting your focus quickly back to school work)," and "Managing time." To elaborate, she wrote, "I get bored too easily, and it's very easy to just switch tasks while on a computer. Also because I get bored, I don't spend a lot of time doing school or other productive activities." By the time of the second questionnaire she described her greatest challenges in terms specific to the courses that session or her

tendency to avoid work that appears difficult. For example, to the question of the hardest aspect of Session #3, she wrote, “the workload of my Spanish II class.” And the goal she articulated to limit challenges faced in previous sessions was to “face my assignments head-on and challenge myself.” Elizabeth explained in our interview that this meant that she sometimes shuts down or ignores work that seems hard; the procrastination that engendered would cause her more stress, as she would get behind in achieving course target dates.

In both surveys, she indicated a desire for a greater accountability of some sort, though, by the second survey, her expression of this involved more ownership on her part. She wrote in September “I think my mom could check in and make sure I'm on task more often. I don't know what the school could do,” and in December she wrote that her online learning experience would be improved by “a more rigid schedule, imposed by myself/my parents/the school.” We discussed this at length in the interview, and, while she felt her clear goal of staying on track with her POS to enter a face-to-face setting in the upcoming fall was palpably helpful, she still would benefit from a schedule and check-ins. After our meeting, she developed a draft of a schedule and shared it with me, looking for feedback, and ready to restart our working together for her success. The draft schedule was very general, even though we talked about the characteristics of a schedule that might be helpful planning her days.

	monday	tuesday	wednesday	thursday	friday	saturday	sunday
morning (8am - 11am)	one hour of reading. assess work week ahead	one hour of reading	one hour of reading	one hour of reading	one hour of reading	one hour of reading	one hour of reading
afternoon (12pm - 4pm)	complete as much of the day's work as possible	complete as much of the day's work as possible	complete as much of the day's work as possible	complete as much of the day's work as possible	complete as much of the day's work as possible	get the next week's work done if possible	get the next week's work done if possible
evening (5pm - 8pm)	complete what may be left over	complete what may be left over	complete what may be left over	complete what may be left over	complete what may be left over	get the next week's work done if possible	get the next week's work done if possible
night (9pm - 12am)	rest. do work for the next days if possible	rest. do work for the next days if possible	rest. do work for the next days if possible	rest. do work for the next days if possible	rest. do work for the next days if possible	get the next week's work done if possible	get the next week's work done if possible
early morning (technically the next day but still within a 24 hr conscious period)	do work for the next days if still awake and bored	do work for the next days if still awake and bored	do work for the next days if still awake and bored	do work for the next days if still awake and bored	do work for the next days if still awake and bored	get the next week's work done if possible	get the next week's work done if possible

Figure 3. Elizabeth's proposed weekly work schedule.

I offered some suggestions, and spent time going through her courses, counting activities and crafting a schedule to suggest to her; this included an approximate number of lessons and deliverables she should complete during the current session to complete on time. I offered general daily and weekly benchmarks. I did not hear from her. A couple of days later, I heard from her mother who explained to me that the freedom of online learning works well for Elizabeth, and that the rigidity imposed on her by a framework such as the one I suggested would cause her angst, to the detriment of her success.

Mixed Methods Profile #3: Linda

In this section, I provide a third profile. It is to demonstrate how this action research project attempted to use mixed methods to develop a uniquely complex narrative about each student, in order to support them better. Linda was a 16 year-old 10th grade female. She reported her GPA to be in the B range in September, and expected her Session #3 score to be in the A range, which she very nearly achieved with a few days' extension. She came to FAC on a recommendation from a friend in her pre-professional ballet program. The program is very intense in terms not just of expectations on the dancers' bodies and minds, but on their time. It became clear that to continue to dance at

an increasingly high level, and train for several day competitions, she would need a more flexible schooling schedule. She had a marginally successful partial semester at a large local online school, but found the support lacking and her self-directedness insufficiently developed. Linda had credits to recover to be on pace with her cohort, which she and her mother understood and accepted upon enrollment. They were ready for the challenge of online learning again, recognizing better this time that it would be a joint effort, where Linda would need attention at home from her parents. At enrollment, her mother explained that they both grew and learned a lot over the course of their last online learning experience and are ready to try again, fortified by the lessons of that time. These early conversations alerted me to their likely needs from me, which would include greater attention in the early weeks and months and assistance developing work habits supportive of her success and a positive family dynamic,

The profile of this student displays an emergence over the study period of a self-awareness that was not as sharp at the time of the first questionnaire, as it was at the time of the second. Linda's mean scores on the first questionnaire, organized by ESPRI constructs, were above those of her peers (with an overall average of 5.08). Her responses on Organization averaged to a 5.00, "Agree," indicating confidence in her own ability to use self-regulated learning skills to self-monitor to the degree necessary to establish and maintain organization for online schooling. She did, however, select several options when asked what she found most challenging about online schooling: "Staying on task (avoiding distractions or redirecting your focus quickly back to school work)," "Communicating with instructors (you may not be comfortable reaching out by email, for example)," "Setting and sticking to a schedule," "Having parent/guardian more in 'your

[school] business','' and ''Achieving the required weekly 30 hours of coursework.'' Linda acknowledged further her tendency to get distracted by writing in her elaboration on her response to the former question ''For me, the most challenging part is being home alone sometimes. If I have to do assignments and I am home alone I tend to stray and do random thing in the house.'' Linda's actual weakness in this area became quickly clear as her pace fell behind target dates, continually, and her effort within a lesson seemed extensive. Similarly, though her score on Instructional Risk-taking was her lowest (4.50), it represented reasonable confidence.

My early efforts involved sending questions to check in by email, and offering suggestions. I also communicated with her mother on a regular basis, both by phone and via email, to help guide her monitoring and support efforts. Her mother, exasperated, arrived at the idea of linking dance practice with schooling. This was working well for one of the girls in Linda's dance company. The mother sounded as though she felt this would be a solution, though seemed reticent when vocalizing her imagining her enforcing this.

Responses on the second questionnaire were illuminating, in that it seemed possible to conclude that she had had some meaningful self-reflection in the period between the two surveys. Her entries seemed to indicate that she recognized room for improvement in her organizational skills (4.29), and that she did not have as much confidence as she earlier indicated in connecting with instructors or program staff for help (her mean Instructional Risk-Taking score in December was 3.75). Linda's responses to the open-ended questions on this second questionnaire were terse but

poignant. For, example, she said of her goal for the next session, simply: “Don’t get distracted by the internet and focus on school.”

I learned in one of my telephone conversations with the family that her father had recently returned to town after having been away for work, around the time that her mother got a job, pulling her from daily monitoring of her daughter. He became aware of his daughter’s struggle keeping on pace and generally staying on task. He said to me, without irony, that he “would fix this,” by which he meant that he would ensure that his daughter kept on task, met target dates, and would otherwise prioritize school. I was concerned at first about his approach, as I had had similar-seeming experiences with other families. The dad, in this recent unrelated circumstance, who got involved ostensibly to pick up the pieces, spoke similarly and was a controlling figure in the family. He did not help his daughter and was a very negative influence in the challenging family dynamic. I was on alert for a similar situation. However, this family was different, and this father seemed to have provided a welcome and patient force of support for Linda. I learned, in our interview, that one of the most valuable takeaways from her working with her father in this way was the sentiment—motto—“It sucks to do it but you have to do it, so just do it and when you’re done you’ll feel really good about what you’ve accomplished.” Linda said that she would play this statement in her mind when she faced something she did not want to do in her schooling.

She had a positive Session #3, the academic term which ended as the second survey was delivered, supported by greater attention at home. She wrote in the second questionnaire that “setting a weekly schedule” would improve her online learning experience. For upcoming sessions, we discussed a shared weekly schedule with general

benchmarks, in combination with her making a greater effort to awake for the day earlier for more productive work hours in a day. Additionally, we discussed the extent to which she might have benefitted from brief timed work sessions with brief breaks in between, such as the Pomodoro Technique. The purpose was to address the complaint that she works inefficiently, or longer than might be necessary to complete any individual task. As of this writing, we communicated weekly, based on general guidelines of a work schedule, including course target dates.

Findings and the Research Questions

The first research question asked about the ESPRI factor(s) that presented the most significant challenges for FAC students. The results of the ESPRI items on the first questionnaire indicated that the lowest level of confidence was in the Instructional Risk-Taking category (then Achievement, and, last, Organization). The mean score among students in Instructional Risk-Taking was 3.63, in between an average response of "Somewhat Disagree" and "Somewhat Agree." Students' responses to the open-ended questions, however, pointed fairly decisively in the Organization category. Students' responses on the second questionnaire indicated much less tentativeness in terms of Instructional Risk-Taking (4.75), though it was the second lowest mean score next to Organization. Open-ended responses on this questionnaire, the photo project submissions, and the findings from the interviews were similarly weighted toward concepts that would seem to fit the Organization construct. The clearest examples of this are students' musings on the challenges of not having a set schedule around which to do school work, and being an autonomous learner, relying largely on one's own self-directedness and self-management.

Findings with regard to the second research question were less illustrative. Data came from the first survey, the photo project, and the interviews. Mostly, students referred back to themselves, stating in some form or another that it was up to them to have a successful schooling experience. Perhaps this pointed to a relatively high degree of internal locus of control among my sample. The question on the first questionnaire asked "In what way(s) do you think you could be better supported?" One student stated explicitly that she would benefit from quicker responses from her course facilitators. Nearly every other student stated either that it was up to them in some way (e.g., "If I put my mind to it when I'm home alone then I can finish my work and take a long break before I move on in each lesson;" "I think it's entirely my fault and that I am well supported. I just need to get over it and do another hour of work each day. Easier said than done though;" and "I am supported very well by my parents, I'm not sure what else they could do").

One student responded on both questionnaires that she thought it might be helpful if more structure was imposed on her by the school and/or her mom, but she basically denied this sentiment in our interview and in my follow up attempting to help develop such a structure. Another student mentioned the support she already receives from her older brother, and I learned that she could use content support in math and science when he is no longer as accessible. She and another student liked the idea of my enhanced role in their keeping on track, by being more communicative around a work plan framework. This research question proved to be less helpful than I anticipated, either because students were uncertain of the possibilities for additional support, or because they were not yet comfortable enough expressing the ways in which they would value support.

The third research question sought to elucidate a discussion of the *documentation of the process* of developing a highly personalized online learner support system. The present chapter and the Chapter 5, following, essentially serve as such a documentation. It was a more concise and synthesized version of my numerous Research Journal entries, notes on interactions with students, parents/guardians, and staff, and Analytic Memos over the study period. The featured aspect was the set of three mixed methods profiles. These stood as both demonstration of an innovation that resulted from this study and a tool to craft personalized interventions to support students' online learning paths. The fourth research question is addressed in Chapter 5, as part of the broader discussion of this action research project: How has the *action researcher, herself, changed* as a result of implementing the development of an online learner support system process at FAC?

CHAPTER 5

DISCUSSION

In Chapter 5, I discuss my findings and offer some initial explanations for the results, presented in Chapter 4, reflect candidly on the study, and articulate some implications of the study. In the first two sections, I explain the results of my explorations guided by this study's first and second research questions, respectively. In the next section, I provide an honest assessment of some of this study's limitations. Before concluding, I offer what implications for practice and for future research I believe the study raises.

Discussion of Results

Having been trained in social science research, prior to my entry into education, my tendency is to want to seek broad evidence-based conclusions. But the nature, and, indeed, the value, of this study was its attention to the individual. The following discussion attempts to provide a perspective on the sample as a whole, while respecting students' unique circumstances and needs.

Students' most significant challenges. The first question guiding this study asked which factors identified by the ESPRI presented the most significant challenges for FAC students. In Chapter 1 where I described my context, I asserted in my problem statement and in my consideration of related literature, Chapter 2, that online learning success is dependent particularly on a student's self-regulatory learning skills, and a student's support system, including the sense of community the online program provided. ESPRI researchers helpfully articulated four areas for the study of online learning readiness: Technology skills/access/self-efficacy, Achievement beliefs, Instructional risk-

taking, and Organization. In applying the ESPRI conceptual categories to data collection on FAC students, I discerned that Instructional risk-taking influenced many students in my sample to a critical degree.

Upon reflection, I might have assumed that students' ability and willingness to reach out to course facilitators and to try tasks where they were they uncertain of themselves, was intertwined with self-regulation. To further explain, in considering my mindset at the beginning of the study, I was under the impression that students who were not reaching out for help when they needed it were not sufficiently motivated or organized. I recognize at the time of this discussion that this was a separate aspect of their online learning skillset. To illustrate, I learned in my interview with Linda and her mother the extent of her self-described introversion, and general nervousness emailing or meeting with course facilitators. It was only after repeated face-to-face interactions that she began to respond to my emails and initiate contact herself with me. Her mother captured this by saying to me "she knows you now," in other words, she is more comfortable being honest about her progress and schooling challenges.

My task, as described in Chapter 4, was to learn from data collected about student's individual needs, and implement interventions based on them. My finding that responses to ESPRI items indicated instructional risk-taking influenced students' online learning success, for example, would have led me (a) to work with instructors on improving their proactive communication practice, (b) to ensure parents/guardians were aware that their involvement in their child's schooling would need to involve communicating with facilitators or helping their child initiate communications, and (c) to

cause students to practice communication skills and trying tasks toward overcoming fear of failure. I described some of the ways in which I engaged in these activities.

However, my experience with these students pointed to an alternative priority: the indisputable need among participants for tools and strategies to help them schedule their work, manage their time, and stay on task. These are conceptually related to the organization construct derived by ESPRI researchers, and are consistent with literature on self-regulation in online learning (Cavanaugh, Lamkin, & Hu, 2012; Cho & Shen, 2013; Roblyer & Marshall, 2002; Roblyer et al., 2008; Wang, Shannon, & Ross, 2013). Students were not necessarily good judges of their abilities, as illustrated in multiple cases where students' ESPRI scores indicated relatively high confidence in their online learning readiness that is not consistent with ability.

An interesting aspect of the addition of open-ended questions on the adaptation of the ESPRI used in this study was the specific detail students provided with regard to their online learning challenges, and the, at times, incongruity or, at least, distinction between those responses and the scores on the Likert scale items. For example, one of the students, Linda, who scored the highest on the first questionnaire, and who, incidentally, had previous online learning experience, had tremendous organizational issues and struggled with shyness in reaching out to instructors. Without the open-ended questions, this student would have appeared a solid candidate for online learning. This points to the challenges associated with self-reported data, though the ESPRI remains useful as a starting point.

Program administrators should learn more about students' personal characteristics such as their previous schooling experiences, beyond the first course check box on the

questionnaire, and their actual academic performance history. For example, a study conducted by Wang, Shannon, and Ross (2013) highlighted the role of previous online schooling experiences in predicting higher rates of achievement. These researchers developed a model to investigate the relationship among students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning contexts. They found "students with more experiences in taking online courses used more effective learning strategies" which influenced positively their motivation toward their online courses (Wang et al., 2013, p. 314). Wojciechowski and Palmer (2005) found that GPA was the most significant predictor of success in online schooling. Roblyer et al. (2008) acknowledged the myriad factors involved in online schooling success, including student and course characteristics, and attempted to build these into their model.

Although questions were not developed specifically to discern satisfaction with "student life" or the FAC community, I was interested to determine whether students would comment on this matter somehow. None in the sample made mention of or alluded to FA student life or their FA peer community. Nevertheless, two in the FAC students who responded to the second questionnaire did, expressing their wish for more school events and more interaction with peers. They were a brother and a sister; one of them, nearly immediately thereafter, withdrew and re-enrolled in the former school, a traditional large high school that the student had not wished to leave in the first place. This lack of a finding among the study sample may be a finding in and of itself. Although sense of community, as discussed in Chapter 2, is no doubt critical to most online learners' success, it may be that "community" need not come from the school.

With respect to this issue, the adolescent community of engagement framework suggested by Borup, West, Graham, and Davies (2014) involved a holistic perspective on student community. The authors developed a multi-pronged engagement framework including interaction—even more substantially, the feeling by students about engagement—with peers, teachers, and parents, as well as their own engagement in learning content and those interactions. Fundamentally, this idea focuses on the broader system in which students are embedded and in which they find support, motivation, inspiration, etc., with regard to their online schooling. I am interested in a similar perspective: what are the components of the whole social system in which students are embedded that can be accessed or enhanced to improve support for online learners? And, how can the "mentor" role be realized so it has a hand in leveraging the myriad resources students may have available outside of, as well as within, the school system?

The study sample from FAC, though not at all intended to be representative of any other population, provided an illuminating perspective on why some young people choose online schooling, rather than a traditional school. These students faced the typical challenges of novice online learners, but they were each enrolled in FAC for a specific reason, one that really only a virtual school could satisfy. Issues ranged, as explained in Chapter 1, from a demanding dance or rodeo schedule, to social anxiety and depression, to medical conditions that made consistent engagement in schooling impossible. This points to the role of the school—perhaps through the capacity of the mentor designate—to help all of its students develop into online learners, especially when they score low on the ESPRI or similar instrument, do not see themselves on the Online Learner Readiness Rubric (Parent Guide to Online Learning, 2013, p. 11), or otherwise demonstrate

substantial challenges early on during online coursework. In some cases, what students need in the schooling experience is a fundamental sense of stability, structure, and care. From such a foundation, they might feel empowered to try new things without a paralyzing fear of making mistakes, for example, or to gain confidence in their ability to achieve academically. Their development of self-regulated learning skill would be a natural part of such a journey.

Wanted support. The second question guiding this study was intended to elicit from each student the type(s) of support that would improve their online learning experience. Anticipated responses spanned a range including parent engagement, teacher involvement, programmatic interventions, or technological tools. Implicit in this question was a curiosity about students' perceptions of their existing support system. I anticipated that if students reflected on the people and institutions they currently had available to them and could rely on for support, they might be able assist me in determining what was missing in terms of support for their online schooling success. This placed a lot of emphasis on students' self-reflective, as well as imaginative, capacity, hoping that they could craft a judgment on their status quo—likely the only context they have known—and then derive a sense of what, specifically, could be improved about it.

As I write this discussion, I consider this inquiry ill-fated for my original intention. Nevertheless, findings from it are constructive for a different reason. As I present in Chapter 4, a response that emerges from multiple students across data collection instruments indicates these students' views that their academic performance resulted of their efforts alone. Three students in the sample stated they were very well supported, and other students did not respond to the specific question, but instead pointed

to what they themselves could or should do to improve their online schooling experience. For example, one student wrote, "If i [*sic*] put my mind to it when I'm home alone then I can finish my work and take a long break before I move on in each lesson."

These responses seem to point to the literature on locus of control and online learning (Cavanaugh, et al., 2004; Lowes & Lin, 2015). Students with an internal locus of control are expected to be more successful academically, ostensibly because they perceive themselves as agents who are capable of "owning" their decisions and progress. This suggests an area for future research: the overlap of high anxiety and internal locus of control. For example, students who struggle with anxiety may be plagued by a strong sense of ownership of their learning and academic performance. These students may develop an overwhelming sense of responsibility that comes from recognizing that it is up to them, largely, to have a successful online learning experience. Further, they may not, yet, be ready to engage in agentic behaviors to carry out the efforts needed to meet the perceived demands. In Chapter 4, I provide statements from students who claim they struggle and who state their support at home is strong and that they are not sure what more the school could do. Such statements exemplify the pressure some students feel as they grapple with developing their agency in their online learning journey. Taken together, this evidence suggests the assumption that students with greater internal locus of control will be better able to achieve in online learning contexts may be worth revisiting.

Setting aside the self-critique around a marginal research question I addressed at the beginning of this section, I did learn from two of the nine participants that course facilitator communication could be improved. Their comments are reprinted below. The

first quotation is from a student who struggles with anxiety and depression to an extent that leaving the house, and, in particular, coming to the school she once attended was not an option.

> I could be better supported by my course facilitator. I feel as though in many situations I could use their help to further advance my education. Their support could be accessed by going on campus and setting up meetings, however my personal situation does not allow me to do this. I feel I am teaching myself all my courses completely alone and sometimes this is difficult, however it is my situations that keeps me from getting help, the course facilitators are doing nothing wrong.

A second student wrote, "I am very well supported. The only problem I have ever had is course facilitators not replying to emails. This makes it difficult and sometimes impossible to move on to something else while waiting (sometimes days) for an email."

Soon after my first cycle of analysis of the first questionnaire data, I shared the relevant statements and a bit of context with FAC course facilitators. The FAC course facilitator orientation I co-developed in early August 2016, which occurred prior to FAC student/parent orientation for the 2016-17 school year, had multiple priorities, for which presenting related research on student achievement, satisfaction, and retention was meaningful. These priorities include (a) initiating communication with students at the beginning of each session or individual course enrollment, (b) prompt responses, (c) reaching out to parents/guardians before it would become very necessary, (d) the importance of these interactions in terms of students' sense of teacher engagement (Borup, Graham, & Drysdale, 2014), or the reduction of "transactional distance," as

described by Moore (1990), and (e) the building of a school community (Rovai, 2002). Sharing these two student's statements with facilitators provided an opportunity to follow up on the content of facilitator orientation, and, in a sense, prove the value of their engagement.

Many times, a student's characteristics were reflective of those exhibited by his/her parent(s)/guardian(s). This may indicate an opportunity for parent/guardian-specific interventions, in the future. One of the female students profiled in Chapter 4 expressed in our interview and previously an unremitting struggle with her mathematics courses. In my brief conversation following our interview, the mother described her daughter's mathematics weaknesses in the context of her own challenges with mathematics. The mother said that, although she earned a nursing degree, she leaves even simple mathematics calculations to her husband, such as gratuity for the cost of a meal out. She explained that she could not possibly help her daughter, standing at her side then, with her schoolwork. Further, she was worried about her daughter's mathematics achievement, because her son would leave for college in a few months, and he was currently acting as an informal tutor. This reminded me of a recent *US News and World Report* (Galvin, 2016) article on girls, confidence, and mathematics (to pursue physics careers), which reported the finding "that mothers' perceptions of the children's math ability in seventh grade predicted the adolescent's math self-concept in ninth grade. Parents' belief in you is a powerful force." This student had the strong support of her family academically and otherwise, but there were subtle factors in the family dynamic that might have been working to undermine her sense of self-efficacy.

One student mentioned that he would find it helpful to be on campus to do his school work. This was one of my oft-suggested strategies to students whose challenges of staying on task persisted and who had no behavior record. Although his parents agreed to the potential value of such an arrangement, their own organization skills inhibited their ability to bring him to campus. They regularly cited scheduling issues and discord between the parents as factors impeding their son's attendance. By way of a third example, a female tenth-grade student expressed her desire for her mother's intervention: "I think my mom could check in and make sure I'm on task more often." The mother of this student said to me a few months prior "I'm a bad mother," in relation to her disengagement from her daughter's schooling and her own challenges with managing a schedule.

These examples are intended to highlight how the agenda to improve student support may be well-advised to start with working with parents/guardians, helping them understand their role in their student's online learning experience. My research question was specific to how students feel they could be better supported, and what I determined was that many students place the weighty burden of success on their own shoulders. Additional insights are that some course facilitators are inadequately attending to students' needs, along with parents/guardians, who might be experiencing their own limitations in supporting their students.

Reflections on Project Realities and Weaknesses

In this section, I outline what I perceive to be the study's noteworthy limitations. The greatest limitation involved the brevity of the study period. One reason for this is alluded to in the following section, and related to my personal struggle with anxiety.

Other factors explaining the delayed start from the timeline I presented in my proposal included a shift in priorities immediately following the oral defense of my proposal, through summer 2016. This included weighty and unexpected obligations in my work context arising from a substantial personnel vacuum and issues closing out the 2015-16 school year and preparing for the 2016-17 school year. This imposition occurred at the same time I attempted to catch up on three elective courses required for the program I did not take with my cohort during the previous summer, on account of the birth of my daughter. The abbreviated timeline limited the influence of potential interventions, as well as the time I had to grow into a worthy mentor.

This points to a second limitation, which I describe in the following section. This related to me because I turned out to be a "reluctant mentor." Although I easily connected with students who I could see regularly in-person, I found that I was perceiving my attempts to check in with my online students as intrusive, and struggled to maintain motivation to persist. In many cases, I was sending messages and making calls and received no response. Though I had conducted research on supporting online learners, as outlined in Chapter 2, the proverbial bottom line is that effective student support is highly individual, and that no single tool or approach would be effective. I offer for further consideration an idea about the sorts of persons or personalities who might be best suited for this role, or, if a commitment to critical self-inquiry and informed guidance would help nearly anyone develop as an effective mentor.

Third, a pivotal limitation is that I chose not to build my action research project into FAC program requirements. In the "Implications for future research" section below, I discuss the reasons. The effect was a smaller study sample and an even narrower

selection of students responding to data collection instruments, such as the photo project, because it was seen as optional.

Reflections of a Reluctant Mentor

The fourth research question guiding this action research project requires the practice of self-reflection, asking that I consider, through a critical lens, my experience attempting to boost my support role. I posed the question, how the action researcher, herself, changed as a result of implementing the development of an online learner support system process at FAC. I added this question later in my research process, as I began to recognize that some of the challenges I encountered related to my own discomfort conducting some of the responsibilities expected of this enhanced support role. Existing literature on online learner support was limited in what it offered prospective online learner mentors who were preparing to embark on the messy process of becoming a mentor in a domain that, arguably, is not readily well-suited to those less proficient with modern technologies for learning and social interaction.

My personality is not one that is naturally comfortable with or accustomed to connecting to others on an affective level—working to open them up, in part by opening myself up. I was somewhat surprised, a reaction that seems absurd now, by the recommendation of Rice (2011) to "interview" students (and parents/guardians) for the sole purpose of getting to know them. She suggests asking very personal questions about the students' lives at home, ranging from feelings about schooling to whether they have pets. My surprise came from a misplaced understanding of privacy, perhaps encouraged by the Institutional Review Board process and schools' hyper-attention to the Family Educational Rights and Privacy Act (FERPA). I began to realize, belatedly, that while an

interview was a good way to begin relationships, I was not only well within my rights, but that asking questions of students about their personal lives (within informed reason, of course) likely would be welcomed all through their tenure at FAC.

Additionally, the high degree of continual monitoring FAC students who demonstrated their lack of readiness for online learning needed, could come from few other places than me. Although our Director of Instruction and Technology acted as the manager of the online courses and communicated regularly with students and parents about negligent time logs, technical issues, and other program concerns; the building of personal relationships for a holistic supervisory effort would be more in my domain. This meant that I had to overcome my discomfort with "bugging" people and make habitual very frequent communication, in most cases, with both the student and the parent/guardian.

With respect to this matter, I learned a way to alleviate my feeling that I was pestering my clientele was to set clear expectations up front with students and their families about the communication involved in the program, i.e., that they could expect from me and other program staff and what I expected of them. To be sure, my current practice as FAC administrator involved setting of expectations and an attempt to derive a mutual understanding about the importance of communication. Nevertheless, as "mentor," I took my interaction to much higher levels. Part of this involved outlining a plan that engaged all parties involved in specific actions on a mutually agreed upon timeline, shared in writing. I found that in the absence of definitive action steps, particularly written, no party, including myself, was able to be held accountable and more easily slipped back into the former routine, unsupportive of online learning success. This

captures one of my greatest personal challenges: the tension among my characteristic strong commitment to doing what I said that I would do and expecting the same from others, to my belief in the value of programmatic accountability mechanisms, and my timidity with respect to the student support demands of the mentor role.

Although I was more comfortable with written communication than verbal face-to-face communication, I quickly began to find that much more was required to connect with students than sending emails. Students in my sample, and arguably generally throughout the generation, were not accustomed or willing to build a relationship by way of written long-form for their schooling. I felt ill-equipped from the beginning both emotionally and technologically. Their communication method of communication by email was limited in expression, if they responded at all. The interviews or other one-on-one, face-to-face interactions provided me with the greatest opportunity to connect with students. The cycles of action research model of this program afforded me the practice I needed to develop greater comfort sitting across from a student and probing about their feelings, program experiences, and schooling support at home.

One FAC student, outside of my sample, took to texting and calling me, which emboldened me to begin trying this with other students. As of this discussion, I have too little experience to comment on the effects, other than to remark that some parents/guardians responded particularly well to telephone communication. For example, one of the mothers of the students profiled in Chapter 4 developed a proclivity for calling me to discuss her daughter's progress and state of mind on her commute to or from her jobs. She explained that she found little time, otherwise, for emailing. Communications with this parent helped to warm me up to phone communication more broadly in my

context; I found it more efficient, often. However, written communication continued to have the benefit of documentation of what was said, without the need to later take notes or draft a review email for my future recollection of student plans and status discussed. The preceding discussion in this section was, in part, to explain something I learned about myself: that initially I lacked confidence and courage, was bogged down by anxiety, which contributed to my delayed beginning of this action research project, and the less-than-dramatic impact of my efforts during the study period.

Over the course of this final cycle of action research, one of the ways in which I learned the most about student support was my enhanced role at Foothills Academy College Preparatory, our traditional middle/high school. Certain high school students were sent to or began coming to me. Many of these students had at least one online class and would end up needing additional, for a range of reasons, including a medical setback, a mental health issue, or a curricular circumstance. They opened up easily to me, and I was able to help them navigate their schooling options. In nearly all of these instances my role emerged as one of a mentor, attending to students' immediate affective needs, and liaising with parents/guardians, teachers, and staff for the purposes of trying to develop a productive academic situation for the student, including physical environment, curriculum, and understanding personnel. It was these interactions that initially prompted my exploration of research on the generation with which my students identify ("Gen-Z"), as discussed in Chapter Two. I had questions about why it seemed like increasing numbers of students struggled with school because of internal psycho-emotional challenges, and how to reach students on a personal level or to academically better engage them.

Implications for Practice

Among the implications for practice the efforts of this action research project have unearthed, the most important involve (a) documentation, (b) streamlining, (c) the value of face-to-face interaction, and (d) close relationships with parents/guardians. The first, (a) documentation, relates to the third research question guiding this project: What would documentation of the process of developing a highly personalized online learner support system at FAC feature? The central answer to this question points to individual student profiles formulated using a mixed methodology. This document is, in a sense, a representation of the documentation. Critically, the question engendered a high degree of documentation on each interaction, reflection, and observation of student progress, along with analytic memos. I used a digital research journal (the same platform where I wrote analytic memos) as well as a spreadsheet with separate tabs for each student. I dated my entries, striving for at least one each week, related to interactions with the student and/or their parent/guardian. Each tab contained my interpretation of the student's responses to the surveys and the photo project, so that I could see in one place an informal online learner readiness profile of the student.

This degree of documentation was very valuable. Even with the very small scale of my sample, it was not always possible to recall clearly the particularities of each student's circumstances and needs. As described in Chapter 2, there have been various efforts over the past two decades to develop online learner readiness instruments. Like the ESPRI, many of them involve self-reporting (Borup & Drysdale, 2014). Unsurprisingly, "students may not be the best judges of their own abilities or be able to foresee the importance of external factors at the time they respond" (Lowes & Lin, 2015,

p. 19). Thoughtful documentation and the formulation (however informal) of profiles synthesizing qualitative and quantitative data may help online schools overcome the analytical weakness implicated by such tools requiring students to report on their own skills, habits, and cognitive traits.

This raises a key implication for practice: how to (b) "streamline" a strong student support system. Scale and strategy are core aspects of an effective mentor model. An essential value of the mentor role is the personalization and the extent to which the occupant of that role knows the student as a person, as well as a student. It seemed to me that, even if the individual's sole responsibilities revolved around the mentor role, the expectations of the role would necessitate that the scale be small. I propose that a mentor's other responsibilities (if mentor is not the only role the individual occupies) must be considered. To be effective, the mentor figure should be provided the time and understanding to attend personally to his/her charges which is a time and energy consuming role. Some students will be well-prepared for the context and require minimal intervention, of course, but there seems a high likelihood that, in any given group, a portion will consume substantial time and effort.

The question becomes how to fulfill mentor responsibilities efficiently, in such a way that each student feels they have a monitor, a coach, an advocate, and a point person for the program. The metaphor about the squeaky wheel always getting the grease applies in this context, as well as in traditional schooling settings, because everyone has limited reserves of time and energy. Effective mentors will need to develop a method for streamlining their support efforts. The ESPRI may prove useful in this regard: students' responses indicate their sense of their own areas of weakness.

Mentors could develop interventions that target those specific areas of weakness, as appropriate for each student. They might craft "support tiers" which would organize students at different points in time in terms of the levels of support they would seem to need. This would necessitate studying not just each learner individually, but studying the whole population and the individual relative to his/her context—that online learner's peers—as I attempted to demonstrate in Chapter 4. They could share the data collected on individual students in helpful form, such as the mixed methods profiles pursued in this study, with those in the student's support system, including course facilitators. Additionally, a point discussed in Chapter 2, an extended orientation would likely help mentors get ahead of some of the potential issues, or, at least, allow the mentor time to get to know the student and prepare appropriate interventions (Beyrer, 2010; Harrell, 2008; Watson, Murin, Vashaw, Gemin, & Rapp, 2013). Students and parents/guardians could use this opportunity to practice navigating the online learning platform(s), managing time, communicating with staff, and otherwise taking on the responsibility of learning independently.

An implication for practice that is neither novel nor surprising, but seemed worth reemphasizing from the perspective of this study, relates to (c) the value of face-to-face interactions. This is related to the critical nature of building trusting relationships with online students, to ensure they feel part of the school community and personally committed to their schooling (Wang, 2014). Students spend a substantial amount of time on different devices, interacting remotely with others. Yet, I found it challenging to connect with students well until a face-to-face interaction was conducted. As noted earlier, Rice (2011) recommends starting the journey of getting to know students and

their parents/guardians by scheduling what she refers to as an interview, using active listening skills and open-ended questions revolving around their personal lives and home routines. My findings in this regard are limited because my sample was small and my students were not generally so geographically remote that I could not connect with them face-to-face.

The only interactions I had with students by way of a web conference, though I regularly extended the invitation, was for FAC student meetings such as the new academic year Orientation or the AZMerit Test Preparation Seminar at the beginning of Session #4 of the 2016-17 school year. These were fruitful because they enable students to participate in the presentations and group activities who either did not live or were not near at those times. In certain cases, I spoke on the phone with them at the time of enrollment and then again later with the parent and the student. I have the strong sense that I would have found great value having conducted those conversations, instead, in a way that would have allowed me to see the student's facial and body expressions, that is to say, by way of a video conferencing technology.

In lieu of virtual or in-person face-to-face interactions, an exercise in the vein of the visual autoethnography, discussed in Chapters 3 and 4, may be worthwhile. For the purposes of this study and my ability to begin to "know" my students at a bit deeper level, the photo project, as I referred to it for students, was powerfully illustrative. Requiring students to use photography or videography to share about themselves, therefore, was a simple, yet meaningful, tool to build relationships and community in an online schooling context. Arizona State University seems to have adopted this as a best practice, as each online or hybrid course I took during this program required that students

introduce themselves to one another and professors in a variety of ways including a narrated screencast slideshow, an oral multimedia presentation, or a visual representation of "you" on one slide. One online teacher was quoted in a discussion at Michigan Virtual School about the project of making courses meaningful for students by way of a personal relationship.

> My students wanted to connect with me as a teacher, they were still face-to-face natives of the classroom. So, they would send me their prom pictures, and they would tell me about their basketball games, and the longer I taught online, the less students do that and that worries me because that tells me that they are getting used to the idea that I turn it in, I get a grade, I walk away and I'm done with it. (DiPietro, Ferdig, Black, Preston, 2008, p. 23)

This teacher's statement alludes to the risk of students slipping away without the personal connection. Although this teacher does not explicitly state needing a face-to-face element of building such a relationship, she points to the value of photos or, at least, the open sharing of personal narratives to develop a connection.

Finally, a truly critical area of online learner success at the K-12 level is (d) the support and attention of those closest to the student, generally a parent/guardian. These individuals themselves need the support of the school. It is the school's responsibility to orient the parent/guardian as well as the student on the technologies and program expectations, help parents/guardians develop strategies for supporting their online learner at home and, to some extent, navigate the new nature of their relationship as they take on an enhanced role in their student's schooling. Building trust between the mentor and the parent/guardian may provide the mentor with a richer perspective into the student's

needs, as well as the parent/guardian's needs, better positioning the mentor to provide targeted interventions. The parent/guardian may be more willing to share frustrations and concerns with the program staff, as well as insights into the student's personal state, given a relationship with pre-established trust. The detailed "Parent Guide to Online Learning" produced by Michigan Virtual University (2013) is a helpful resource, offering parents/guardians thoughts on whether their student may be well-suited for online learning and how to prepare for their student beginning to learn online.

One of the outstanding questions I have for myself and practitioners in K-12 online learning is about how to connect with learners who do not desire or are not open to the connection. In my limited experience, the parent/guardian of such a student was also either a low communicator or disconnected from the student's schooling, and chose not to respond to email or phone communications. In a larger population, such a student would be less noticeable. If the student was clearly competent in online learning skills, then perhaps it would be a matter of personal ego that the mentor figure would need to surmount. In such a case, the mentor should permit the student to continue to thrive on his or her own, without the emergent peer community or affective support of program staff. The nagging question about whether the learner might benefit in some way from continued advances, might be warranted. I, along with other practitioners, will continue to grapple with this challenge, acknowledging, perhaps, that we cannot reach every student in all cases. And, while online schooling may fit some aspect of a student's needs (e.g., social anxiety, anger issues, or a health condition), significant attention may need to be paid to helping the student thrive in the online context.

Implications for Future Research

This study was necessarily limited in scope and scale. Within the future research agenda on online learner support, I propose that the following areas would be worth additional exploration. First, further studying the role of parents/guardians of K-12 online learners would provide insights into how to develop a true "system" of support (Borup, West, Graham, & Davis, 2014; Hasler Waters, Menchaca, & Borup, 2014). Parents/guardians may not only struggle to relate to their growing youth, but they may face challenges with the technologies virtual schools use. Although they are navigating their changing family dynamic, working to establish clear and positive boundaries between the role of the parent and youth, they are expected to be aware of and active in their student's schooling.

This presents an opportunity for virtual schools to improve their support to parents/guardians, and minimize the potential oppressiveness of the academic monitoring and coaching role. Would building community among parents/guardians at an online school be desirable and worthwhile? Presumably, the mentor role could provide a helpful influence between parent/guardian and student, reducing the pressure on the parent/guardian. However, for some students, even when communication with program staff is required, the act of responding to a question in an email is beyond their willingness or capacity, the parents/guardians must continue to be involved. Researchers such as Liu, Back, Algina, Cavanaugh, and Dawson (2010) and Black (2009) have taken an evaluative inquiry approach about the extent to which the parents/guardians or family influence the online student's potential for success. In setting up their studies, these authors synthesized related research on parental involvement in schooling demonstrating

the general consensus among scholars and practitioners that parents/guardians can positively influence their students' educational experience. In addition to academic achievement, parent/guardian involvement is positively related to attendance and pro-social behaviors (Liu et al., 2010). At question in their studies was how to operationalize and measure parental involvement and its effects, which is tangential to this present discussion.

Second, the personal qualities of the online learning mentor could be explored more extensively. The guide produced by Michigan Virtual University (2014), "Mentor fundamentals: A guide for mentoring online learners," quotes Roblyer (2006) stating "mentors 'are made, not born'" (p. 12). My sense is that some personalities are better suited for the role than others. However, equipped with a prescribed plan of action including a set of very specific strategies and the expectation set among students and parents/guardians regarding the level of interaction in which the mentor will engage, those less well-suited naturally may be able to fulfill the role adequately. Preservice training and mentorship would be highly valuable, as well, of course, to ensure a high degree of comfort and competency with respect to the responsibilities. Taken together, an area of future study that would be very interesting relates to the characteristics of mentors. This inquiry could be guided by such questions as:

- What sort of affective qualities do mentors possess with whose students report a strong connection?
- What sorts of emotive and leadership traits are helpful?
- To what extent can these qualities be developed, and to what extent are they core parts of someone's affective nature?

Third, what can we learn about different populations of online learners through a cross-site analysis of responses to the ESPRI? My initial intention of this study was to experiment with the ESPRI as a tool to analyze the effectiveness of certain interventions on students' readiness for online learning. I continue to think this will be a worthwhile path of study. In addition, what other ways can the results of such an instrument be applied? I made claims about my sample in the previous chapter, regarding their self-reported sense of achievement, organizational skills, etc., related to the ESPRI. It would be interesting to study these findings, relative to findings from other parallel research studies at different online schools. If conducted on a broad scale, perhaps a discussion might ensue regarding the needs of learners in different contexts. Such a study could offer insights into groupings of learners at different stages, ages, genders, locality types, etc., or reject the premise of such categorizations entirely.

Fourth, an area of further investigation relates to the available technologies that could act as interventions to directly address areas of weakness, per the ESPRI. My findings suggest that interventions must be individual, and that no one strategy will capture the entire population. Nevertheless, further study about different types of existing technologies would be instructive. For example, would students respond to text messages, using the Remind application, providing encouragement and deadline reminders? Which students? Would an internet browser tool that helped students catch themselves each time they veered away from their stated goal(s) and schooling sites enable students to develop habits to stay on task, such as Momentum? What would be most helpful with regards to scheduling? For example, is Google Calendar sufficient, or are there technologies that are more involved or in some way integrated into students' current online habits? What role

might mindfulness related applications play in helping students develop their self-regulation (e.g., Stop, Breathe, & Think)?

Finally, an inquiry of great interest to me that this study portended is further research on building student agency. Given many students' sense that they were wholly unaccustomed to and unprepared for the freedom provided by the online school, it would be worthwhile to study strategies to help students develop their abilities to take ownership over their own learning. This effort likely would begin by working with students first to understand the concept of embodying a high degree of independence in their educational context and navigating the responsibilities associated with greater degrees of freedom. At the center of this inquiry is a question such as, "What sorts of interventions might an online school engage in to prepare students for online schooling even prior to their precourse orientation?"

If I were to redo my action research study, I would, without a doubt, make all data collection activities and interventions a required part of the program. I considered this initially, but in part due to my confusion over Institutional Review Board stipulations and my own limitations of time, I abandoned this. A more effective approach would have been to develop as units within a 0.25 credit course (titled FA 100, to fit with the school's ongoing foundational course in which students expect to be enrolled at least once), and require participation for credit. I would have put the two surveys, the photo project, and an interview, that is to say, a one-on-one meeting for registration within the online course shell. I might have delivered the photo project as a community building tool, and had students share them in a kind of discussion board format. I would still have struggled with participation, but students would have understood that they were engaging in

something meaningful for their academic experience, and required for their program because they would not just be helping me out with my graduate work. Finally, and critically, I would have allotted a calendar year, in order to apply ESPRI in a pre-/post-test format, to consider whether it is useful in identifying the trajectory of online learners' readiness for the context. In other words, would it offer something that course completion rates, grades, and regular interaction alone would not? And, what implication would such a finding have on online schools' efforts to assess and develop readiness for online schooling?

Conclusion

K-12 online schooling continues to expand rapidly to meet burgeoning demand across the country. As addressed in the preceding chapters, students often come to online learning for a specific reason, such as scheduling flexibility, curricular needs, or the ability to work independently and outside of a social context. They and their parents/guardians may not have considered genuinely the level of self-direction required, the relative social isolation, or even the technological tools and capacities needed for the online schooling experience. This study applied an adaptation of the Educational Success Prediction Instrument, constructed to assess the readiness of students for online schooling, in order to develop individualized interventions targeted at students' particular areas of online learning weakness.

One of the main outcomes of this study is the mixed methods profiles of students. These integrated qualitative and quantitative data, to inform the mentor's individualized support efforts. Findings pointed to the value of eliciting students' feedback and narratives across multiple platforms and in various ways. This was for the purposes of

building personal relationships, meaningful for their achievement prospects and retention, and building a highly targeted support plan. Among the results of this study was a more robust and systematic online learner support system at Foothills Academy Connected, with a mentor-in-training practiced at working individually with students on a personal level, and leveraging every resource and member of the school community to improve each student's chances for success. Although, ultimately, it is up to students to take ownership of their learning as much as is possible, even typically high achieving students may struggle with the novel autonomy and delivery mode. The online school bears the great responsibility to help learners develop skills necessary to thrive, and the school must provide a persistent support structure.

REFERENCES

5-O-D: Expanded online learning. (2015). Michigan Department of Education. Retrieved from http://www.michigan.gov/documents/mde/5OD__EXPANDED_ONLINE_LEARNING_430347_7.pdf

A personalized future for education: Moving into the 21st century and beyond. (2013). Sacramento, CA. Retrieved from https://www.studentsfirst.org/page/-/publications/PersonalizedFinal.pdf

Anderson, T., & Elloumi, F. (2004). *Theory and practice of online learning*. Athabasca, AB Canada. Retrieved from http://cde.athabascau.ca/online_book/pdf/TPOL_book.pdf

Anderton, B. (2006). Using the online course to promote self-regulated learning strategies in pre-service teachers. *Journal of Interactive Online Learning*, *5*(2), 156–177. Retrieved from www.ncolr.org/jiol

Archambault, L., Diamond, D., Coffey, M., Foures-Aalbu, D., Richardson, J., Zygouris-Coe, V., … Cavanaugh, C. (2010). *Research committee issue brief: An exploration of at-risk learners and online education*. Vienna, VA. Retrieved from http://www.inacol.org/research/docs/iNACOL_AtRiskStudentOnlineResearch.pdf

Artino, A. R. (2007). Self-regulated learning in online education: A review of the empirical literature. *International Journal of Instructional Technology & Distance Learning*, *4*.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education, (July).

Bandy, T., & Moore, K. A. (2010). Assessing self-regulation: A guide for out-of-school time program practitioners. *Research-to-Results*, *23*.

Barbour, M., & Reeves, T. C. (2009). The reality of virtual schools: A review of the literature. *Computers and Education*, *52*(2), 402–416. doi:10.1016/j.compedu.2008.09.009

Barbour, M., Brown, R., Waters, L. H., Hoey, R., Hunt, J. L., Kennedy, K., … Trimm, T. (2011). *Online and blended learning: A survey of policy and practice of K-12 schools around the world*. Vienna, VA. Retrieved from http://www.inacol.org/wp-content/uploads/2012/11/iNACOL_IntnlReport2011.pdf

Barbour, M., Siko, J., Sumara, J., & Simuel-everage, K. (2012). Narratives from the online frontier: A K-12 student's experience in an online learning environment, *17*, 1–19.

Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S.-L. (2009). Measuring self-regulation in online and blended learning environments. *The Internet and Higher Education, 12*(1), 1–6. doi:10.1016/j.iheduc.2008.10.005

Barth, Patte; Hull, Jim; St. Andrie, R. (2012). *Searching for the reality of virtual schools*. Retrieved from http://www.centerforpubliceducation.org/Main-Menu/Organizing-a-school/Searching-for-the-reality-of-virtual-schools-at-a-glance/Searching-for-the-reality-of-virtual-schools-full-report.pdf

Beach, K. (1999). Consequential transitions: A sociocultural expedition beyond transfer in education. *Review of Research in Education*, *42*(1), 101–139.

Bernard, R. M., Brauer, A., Abrami, P. C., & Surkes, M. (2004). The development of a questionnaire for predicting online learning achievement. *Distance Education*, *25*(1), 31–47. doi:10.1080/0158791042000212440

Beyrer, G. (2010). Online student success: Making a difference. *MERLOT Journal of Online Learning and Teaching*, *6*(1), 89–109. Retrieved from http://jolt.merlot.org/vol6no1/beyrer_0310.htm

Black, E. (2009). *An evaluation of familial involvements' influence on student achievement in K-12 virtual schooling*. University of Florida. Retrieved from http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqdiss&rft_dat=xri:pqdiss:3367406

Borup, J., & Drysdale, J. (2014). On-site and online facilitators: Current and future direction for research. In R. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning* (pp. 325–346). Pittsburgh, PA: ETC Press. doi:10.1017/CBO9781107415324.004

Borup, J., Graham, C., & Drysdale, J. (2014). The nature of teacher engagement at an online high school. *British Journal of Educational Technology*, *45*(5), 793–806. Retrieved from 10.1111/bjet.12089

Borup, J., West, R. E., Graham, C. R., & Davies, R. S. (2014). The adolescent community of engagement framework: A lens for research on K-12 online learning. *Journal of Technology and Teacher Education*, *22*(1), 107–129.

Bradbury-Huang, H. (2010). What is good action research?: Why the resurgent interest? *Action Research*, *8*(1), 93–109. doi:10.1177/1476750310362435

Bransford, J. D., & Schwartz, D. L. (1999). Rethinking transfer: A simple proposal with multiple implications. In A. Iran-Nejad & P. D. Pearson (Eds.), *Review of Research in Education* (Vol. 24, pp. 61–100). Washington, DC: American Educational Research Association. doi:10.3102/0091732X024001061

Bray, B., & McClaskey, K. (2014). Building personalized learning environments. *The AdvancED Source*, *Spring*, 2. Retrieved from http://www.advanc-ed.org/source/building-personalized-learning-environments

Carnahan, C. D. (2012). *The effects of learning in an online virtual environment on K-12 students*. Indiana University of Pennsylvania, United States -- Pennsylvania.

Carson, A. D. (2011). Predicting student success from the LASSI for Learning Online (LLO). *Journal of Educational Computing Research*, *45*(4), 399–414. doi:10.2190/EC.45.4.b

Cavanaugh, C. (2009). *Getting students more learning time online: Distance education in support of expanded learning time in K-12 schools*. Washington, DC.

Cavanaugh, C., Barbour, M., & Clark, T. (2009). Research and practice in K-12 online Learning: A review of open access literature. *The International Review of Research in Open and Distance Learning*, *10*(1).

Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). The effects of distance education on K-12 student outcomes: A meta-analysis. *Learning Point Associates / North Central Regional Educational Laboratory (NCREL)*. Retrieved from http://eric.ed.gov/?id=ED489533

Cavanaugh, C., Lowes, S., Scribner, D., Barbour, M., Powell, A., Molen, J. Van Der, … Scheick, A. (2009). *Research committee issues brief: Examining communication and interaction in online teaching*. Vienna, VA.

Chen, C.-M. (2009). Personalized e-learning system with self-regulated learning assisted mechanisms for promoting learning performance. *Expert Systems with Applications*, *36*(5), 8816–8829. doi:10.1016/j.eswa.2008.11.026

Chen, P.-S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of web-based learning technology on college student engagement. *Computers & Education*, *54*(4), 1222–1232. doi:10.1016/j.compedu.2009.11.008

Cho, M., & Jonassen, D. (2009). Development of the human interaction dimension of the self-regulated learning questionnaire in asynchronous online learning environments. *Educational Psychology*, *29*(1), 117–138. doi:10.1080/01443410802516934

Cho, M., & Shen, D. (2013). Self-regulation in online learning. *Distance Education*, *34*(3), 290–301. doi:10.1080/01587919.2013.835770

Cho, M., Demei, S., & Laffey, J. (2010). Relationships between self-regulation and social experiences in asynchronous online learning environments. *Journal of Interactive Learning Research, 21*(3), 297–316.

Conley, D. (2013). Student ownership of learning: The key to college and career readiness and common core success. In *Forum on Education and the Economy*. Orlando, FL: Educational Policy Improvement Center.

Connecting America: The National Broadband Plan. (2010). Washington, DC. Retrieved from https://www.fcc.gov/national-broadband-plan

Coppa, L. (2004). The ABC's of the K-12 virtual community (the who, what and how for K-12 teachers). *AACE Journal*, *12*(3), 343–347. Retrieved from http://www.editlib.org/p/11305

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, California: SAGE Publications.

Curtis, H., & Werth, L. (2015). Fostering student success and engagement in a K-12 online school. *Journal of Online Learning Research*, *1*(2), 163–190.

Cutler, R. H. (1995). Distributed presence and community in cyberspace. *Interpersonal Communication and Technology: A Journal for the 21st Century*, *3*(2), 12–32.

Davis, N., & Roblyer, M. (2005). Preparing teachers for the "schools that technology built:" Evaluation of a program to train teachers for virtual schooling. *Journal of Research on Technology in Education (International Society for Technology in Education)*, *37*(4), 399–409. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=18566818&site=ehost-live

Demir Kaymak, Z., & Horzum, M. B. (2013). Relationship between online learning readiness and structure and interaction of online learning students. *Educational Sciences: Theory & Practice*, *13*(3), 1792–1797. doi:10.12738/estp.2013.3.1580

DeVine, C. (2013). The skills both online students and teachers must have. *Edudemic*. Retrieved from http://www.edudemic.com/the-skills-both-online-students-and-teachers-must-have/

Diaz, D., & Cartnal, R. (2006). Term length as an indicator of attrition in online learning. *Innovate*, *2*(5). Retrieved from http://www.innovateonline.info/index.php?view=article&id=196

DiPietro, M., Ferdig, R., Black, E., & Preston, M. (2008). Best practices in teaching K-12 online: Lessons learned from Michigan Virtual School teachers. *Journal of Interactive Online Learning*, *7*(1), 10–35.

Dray, B. J., Lowenthal, P. R., Miszkiewicz, M. J., Ruiz-Primo, M. A., & Marczynski, K. (2011). Developing an instrument to assess student readiness for online learning: a validation study. *Distance Education*, *32*(1), 29–47. Retrieved from 10.1080/01587919.2011.565496

Drysdale, J. (2013). *Online facilitators and sense of community in K-12 online learning*. Brigham Young University.

Drysdale, J., Graham, C., & Borup, J. (2014). An online high school "shepherding" program: Teacher roles and experiences mentoring online students. *Journal of Technology and Teacher Education*, *22*, 9–32.

Dunlosky, J., & Thiede, K. W. (1998). What makes people study more? An evaluation of factors that affect self-paced study. *Acta Psychologica*, *98*(1), 37–56. doi:10.1016/S0001-6918(97)00051-6

Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House Publishing Group. Retrieved from https://books.google.com/books?id=fdjqz0TPL2wC&dq=dweck+growth+mindset&source=gbs_navlinks_s

Elias, M. (2014). SMART goal setting with your students. Retrieved from http://www.edutopia.org/blog/smart-goal-setting-with-students-maurice-elias

Ertmer, P., & Stepich, D. (2005). Relationship between sense of community and learning in online learning environments. In C. Crawford, D. Willis, R. Carlsen, I. Gibson, K. McFerrin, J. Price, & R. Weber (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2005* (pp. 391–397). Chesapeake, VA: AACE.

Fast facts about online learning. (2013). Vienna, VA. Retrieved from http://www.inacol.org/cms/wp-content/uploads/2013/11/iNACOL-Fast-Facts-About-Online-Learning-October-2013.pdf

Ferdig, R. (2010). *Understanding the role and applicability of K-12 online learning to support student dropout recovery efforts*. Lansing, Michigan.

Ferdig, R., & Kennedy, K. (Eds.). (2014). *Handbook of research on K-12 online and blended learning*. Pittsburgh, PA: ETC Press. Retrieved from http://press.etc.cmu.edu/content/handbook-research-k-12-online-and-blended-learning-0

Fetzner, M. (2012). What do unsuccessful online students want us to know? *Journal of Asynchronous Learning Networks*, *17*(1), 13–27. Retrieved from http://eric.ed.gov/?q=agency+online+learning+survey&id=EJ1011376

Flick, U. (2014). *Introduction to qualitative research* (5th ed.). Thousand Oaks, CA: SAGE Publishers.

Freidhoff, J., Borup, J., Stimson, R., & DeBruler, K. (2015). Documenting and sharing the work of successful on-site mentors. *Journal of Online Learning Research*, *1*(1), 107–128.

Friedman, V. J., & Rogers, T. (2009). There is nothing so theoretical as good action research. *Action Research*, *7*(1), 31–47. doi:10.1177/1476750308099596

Galvin, G. (n.d.). Girls need confidence, good scores to pursue physics. *US News & World Report*.

Gelo, O., Braakmann, D., & Benetka, G. (2008). Quantitative and qualitative research: Beyond the debate. *Integrative Psychological & Behavioral Science*, *42*(3), 266–290. doi:10.1007/s12124-008-9078-3

Gibson, C. (2016, May 25). Inside the race to decipher today's teens, who will transform society as we know it. *Washington Post*. Washington, D.C. Retrieved from http://www.washingtonpost.com/sf/style/2016/05/25/inside-the-race-to-decipher-todays-teens-who-will-transform-society-as-we-know-it/

Gibson, C., & Contrera, J. (2016, May 25). "What"s a tbh?' Terms we had to explain to our editors when reporting these stories. *Washington Post*. Washington, D.C. Retrieved from www.washingtonpost.com/sf/style/2016/05/25/whats-a-tbh-terms-we-had-to-explain-to-our-editors-when-reporting-on-generation-z/

Goodlad, J. L. (1997). *In praise of education*. Teachers College Press.

Green, S. B. & Salkind, N. J. (2014). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (7th ed.). Upper Saddle River, NJ: Pearson.

Greeno, J. G. (2006). Authoritative, accountable positioning and connected, general knowing: Progressive themes in understanding transfer. *The Journal of the Learning Sciences*, *15*(4), 537–547.

Guan, Y., Wang, J., Young, M., Owen, S., & Andrew, R. (1999). Motivation: Goals, agency beliefs, and emotions in web assisted learning. *Proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology*, 85. Retrieved from http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/62382845?accountid=4485

Guide to online high school courses. (2002). Retrieved from http://www.nea.org/home/30113.htm

Hall, B. G. E., & Hord, S. M. (2011). Learning builds the bridge between research and practice. *Learning Forward*, *32*(4), 52–57.

Hannum, W. H., Irvin, M. J., Lei, P., & Farmer, T. W. (2008). Effectiveness of using learner-centered principles on student retention in distance education courses in rural schools. *Distance Education*, *29*(3), 211–229. doi:10.1080/01587910802395763

Harms, C., Niederhauser, D., Davis, N., Roblyer, M., & Gilbert, S. (2006). Educating educators for virtual schooling: Communicating roles and responsibilities. *The Electronic Journal of Communication*, *16*(1 & 2).

Harrell, I. (2008). Increasing the success of online students. *Inquiry*, *13*(1), 36–44.

Harvey, D., Greer, D., Basham, J., & Hu, B. (2014). From the student perspective: Experiences of middle and high school students in online learning. *American Journal of Distance Education*, *28*(1), 14–26. doi:10.1080/08923647.2014.868739

Hasler Waters, L., Menchaca, M., & Borup, J. (2014). Parental involvement in K-12 online and blended learning. In R. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning* (pp. 303–324). Pittsburgh, PA: ETC Press. doi:10.1017/CBO9781107415324.004

Hawkins, D. (2015). Here comes Generation Z: What makes them tick? *NEA Today (National Education Association)*. Retrieved from http://neatoday.org/2015/07/13/here-comes-generation-z-what-makes-them-tick/

Haynie, D. (2014). Consider your learning style before signing up for an online course. Retrieved from http://www.usnews.com/education/online-education/articles/2014/02/17/consider-your-learning-style-before-signing-up-for-an-online-course

Headden, S. (2013). The promise of personalized learning: blending the human touch with technological firepower. *Education Next*, *13*(4), 14. Retrieved from http://educationnext.org/the-promise-of-personalized-learning/

Herr, K., & Anderson, G. L. (2005). *The action research dissertation: A guide for students and faculty*. Thousand Oaks, CA: SAGE Publications, Inc. doi:http://dx.doi.org.ezproxy1.lib.asu.edu/10.4135/9781452226644

Hoffman, M. (2016, June 20). Study: In-school support crucial for Montana online classes. *Billings Gazette*. Billings, MT. Retrieved from http://billingsgazette.com/news/local/education/study-in-school-support-crucial-for-montana-online-classes/article_3d7c080e-b2d5-5d9c-be90-a7e3813af9b2.html

Hofmann, J. (2014). 101 tips to motivate the virtual learner. East Lyme, CT: InSync Training, LLC. Retrieved from www.insynctraining.com

Horn, M., & Staker, H. (2011). *The rise of K-12 blended learning*. Innosight Institute, Inc. Retrieved from http://www.christenseninstitute.org/wp-content/uploads/2013/04/The-rise-of-K-12-blended-learning.pdf

Horrigan, J. B. (2016). *Digital Readiness Gaps*. Retrieved from http://www.pewinternet.org/2016/09/20/digital-readiness-gaps/

How to start an online learning program: A practical guide to key issues and policies. (2011). Retrieved from http://www.inacol.org/resource/how-to-start-an-online-learning-program-a-practical-guide-to-key-issues-and-policies/

Hung, M.-L., Chou, C., Chen, C.-H., & Own, Z.-Y. (2010). Learner readiness for online learning: Scale development and student perceptions. *Computers & Education*, *55*(3), 1080–1090. doi:10.1016/j.compedu.2010.05.004

Ito, M., Gutiérrez, K., Livingstone, S., Penuel, B., Rhodes, J., Salen, K., … Watkins, C. S. (2013). *Connected learning: An agenda for research and design*. Irvine, CA, USA: Digital Media and Learning Research Hub.

Jackson, T., Mackenzie, J., & Hobfoll, S. E. (2000). Communal aspects of self-regulation. In *Handbook of Self-Regulation* (pp. 275–300). Elsevier. doi:10.1016/B978-012109890-2/50038-X

Jagannathan, U., & Blair, R. (2013). Engage the disengaged: Strategies for addressing the expectations of today's online millennials. *Distance Learning*, *10*(4), 1–7. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=93996527&site=ehost-live

Järvelä, S., Volet, S., & Järvenoja, H. (2010). Research on motivation in collaborative learning: Moving beyond the cognitive–situative divide and combining individual and social processes. *Educational Psychologist*, *45*(1), 15–27. doi:10.1080/00461520903433539

Journell, W. (2013). *Online learning: Strategies for K-12 teachers*. R&L Education. Retrieved from http://www.myilibrary.com.ezproxy1.lib.asu.edu?ID=566140>

Kauffman, D. F. (2004). Self-regulated learning in web-based environments: Instructional tools designed to facilitate cognitive strategy use, metacognitive processing, and motivational beliefs. *Journal of Educational Computing Research*, *30*(1-2), 139–161. doi:10.2190/AX2D-Y9VM-V7PX-0TAD

Keeler, C. G., Richter, J., Anderson-Inman, L., Horney, M., & Ditson, M. (2007). Exceptional learners: Differentiated instruction online. In C. Cavanaugh & R. Blomeyer (Eds.), *What works in K–12 online learning* (pp. 125–141). International Society for Technology in Education. Retrieved from http://www.iste.org/docs/excerpts/K12OLL-excerpt.pdf

Keeping pace with K-12 online and blended learning: An annual review of policy and practice. (2015). doi:10.1007/s13398-014-0173-7.2

Kelly, K. (n.d.). Better than human: Why robots will — and must — Take our jobs. Retrieved from http://www.wired.com/gadgetlab/2012/12/ff-robots-will-take-our-jobs/

Kereluik, K., Fahnoe, C., & Karr, J. A. (2013). What knowledge is of most worth: teacher knowledge for 21st Century. *Journal of Digital Learning in Teacher Education*, *29*(4), 127–140. doi:10.1080/21532974.2013.10784716

Kim, C. (2012). The role of affective and motivational factors in designing personalized learning environments. *Educational Technology Research and Development*, *60*(4), 563–584. doi:10.1007/s11423-012-9253-6

Kim, P., Kim, F. H., & Karimi, A. (2012). Public online charter school students: Choices, perceptions, and traits. *American Educational Research Journal*, *49*(3), 521–545. doi:10.3102/0002831212443078

Kossan, P., Ryman, A., & Dempsey, M. (2011). Online schools face questions over quality, effectiveness. *The Arizona Republic*. Retrieved from http://www.azcentral.com/news/articles/2011/11/11/20111111online-schools-face-questions-over-quality.html

Lapan, R. T., Kardash, C. A., & Turner, S. (2002). Empowering students to becomes self-regulated learners. *Professional School Counseling*, *5*(4). Retrieved from http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=6617777&site=ehost-live

Lauer, C., McLeod, M., & Blythe, S. (2013). Online survey design and development: A Janus-faced approach. *Written Communication*, *30*(3), 330–357. doi:10.1177/0741088313488075

Leavy, P. (2015). *Method meets art: Arts-based research practice*. New York, New York: Guilford Press.

Lewin, T. (2013, April 29). Colleges adapt online courses to ease burden. *The New York Times*. Retrieved from http://www.nytimes.com/2013/04/30/education/colleges-adapt-online-courses-to-ease-burden.html

Lippke, L., & Tanggaard, L. (2014). Leaning in to “Muddy” Interviews. *Qualitative Inquiry, 20*(2), 136–143. doi:10.1177/1077800413510869

Liu, F., Black, E., Algina, J., Cavanaugh, C., & Dawson, K. (2010). The validation of one parental involvement measurement in virtual schooling. *Journal of Interactive Online Learning*, *9*(2), 105–132. Retrieved from http://offcampus.lib.washington.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=508175640&site=ehost-live

Lowes, S., & Lin, P. (2015). Learning to learn online: Using locus of control to help students become successful online learners. *Journal of Online Learning Research*, *1*(1), 17–48. Retrieved from http://www.editlib.org/p/149845/

March, J., Sproull, L., & Tamuz, M. (1991). Learning from samples of one or fewer. *Organization Science, 2*(1), 1–13.

Massive open online forces. (2014, February). *The Economist*. Retrieved from http://www.economist.com/news/finance-and-economics/21595901-rise-online-instruction-will-upend-economics-higher-education-massive

McLeod, S., & Richardson, J. (2014). School administrators and K-12 online and blended learning. In R. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning* (pp. 285–302). Pittsburgh, PA: ETC Press.

McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, *14*(January), 6–23. Retrieved from http://gageparkhs.enschool.org/ourpages/auto/2011/5/7/37616703/Sense of Community-McMillan and Chavis.pdf

Means, B., Bakia, M., & Murphy, R. (2014). *Learning online: What research tells us about whether, when and how*. New York, NY: Routledge.

Meet Generation Z: Forget everything you learned about millennials. (2014). sparks & honey. Retrieved from http://www.slideshare.net/sparksandhoney/generation-z-final-june-17

Mentor fundamentals: A guide for mentoring online learners. (2014). (No. 1). Lansing, MI.

Miller, A. (2013). Virtual schooling: Where are we now? Where are we headed? *Edutopia*. Retrieved from http://www.edutopia.org/blog/virtual-schooling-where-are-we-andrew-miller

Mills, G. E. (2014). *Action research: A guide for the teacher researcher* (5th ed.). Boston, MA: Pearson.

Miron, G., & Urschel, J. L. (2012). *Understanding and improving full-time virtual schools: A study of student characteristics, school finance, and school performance in schools operated by K12 inc.* Boulder, CO. Retrieved from http://nepc.colorado.edu/files/nepcrbk12miron.pdf

Molnar, A. (Ed.). (2014). *Virtual schools in the U.S. 2014: Politics, performance, policy, and research evidence*. Boulder, CO. Retrieved from http://nepc.colorado.edu/publication/virtual-schools-annual-2014

Moore, M. (1990). Recent contributions to the theory of distance education. *Open Learning: The Journal of Open and Distance Learning, 5*, 10–15.

Moore, M. G., & Kearsley, G. (2011). *Distance education: A systems view of online learning*. Cengage Learning. Retrieved from http://books.google.com/books?hl=en&lr=&id=dU8KAAAAQBAJ&pgis=1

Naidu, S. (2014). In search of "what works" in online and distance education. *Distance Education*, *35*(1), 1–3. doi:10.1080/01587919.2014.902887

National Education Association. (2006). Guide to teaching online courses. *National Education Association*, 1–21. Retrieved from http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Guide+to+teaching+online+courses#3

National education technology plan. (2010). Washington, DC. Retrieved from http://tech.ed.gov/netp/

National standards for quality online courses. (2011). Vienna, VA.

Neuhauser, C. (2002). Learning style and effectiveness of online and face-to-face instruction. *American Journal of Distance Education, 16*(2), 99–113. doi:10.1207/S15389286AJDE1602_4

Palloff, R., & Pratt, K. (2011). *The excellent online instructor: Strategies for professional development*. *Tomorrow's Professor*. San Francisco, CA: Jossey-Bass: A Wiley Imprint.

Palloff, R., & Pratt, K. (2013). *Lessons from the virtual classroom: The realities of online teaching* (2nd ed.). Somerset, NJ: John Wiley & Sons.

Parent guide to online learning. (2013). Lansing, MI. Retrieved from http://www.mivu.org/Portals/0/1_GD_Parent2013_Feb14.pdf

Parental Responsibilities. (2016). Retrieved April 24, 2014, from http://www.connectionsacademy.com/online-school/parents/involvement

Patrick, S., & Powell, A. (2009). *A summary of research on the effectiveness of K-12 online learning*. Vienna, VA: International Association for K-12 Online Learning.

Patterson, B., & McFadden, C. (2009). Attrition in Online and Campus Degree Programs. *Online Journal of Distance Learning Administration*, *12*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer122/patterson112.html

Pintrich, P. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, *16*(4), 385–407. doi:10.1007/s10648-004-0006-x

Plano Clark, V. L., & Creswell, J. W. (2015). *Understanding research: A consumer's guide* (2nd ed.). Boston, MA: Pearson.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, *9*(5), 1–6. https://doi.org/10.1108/10748120110424816

Prensky, M. (2001). Digital natives, digital immigrants—Part II: Do they really think differently? *On the Horizon*, *9*(6). Retrieved from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part2.pdf

Rankin, D. (2013). *Predictors of success for high school students enrolled in online courses in a single district program*. Retrieved from http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/1369849725?accountid=4485

RETHINK: Planning and designing for K-12 next generation learning. (2013). Next Generation Learning Challenges (NGLC) and the International Association for K-12 Online Learning (iNACOL). Retrieved from http://www.educause.edu/library/resources/rethink-planning-and-designing-k-12-next-generation-learning

Rice, K. (2011). *Making the move to K-12 online teaching: Research-based strategies and practices* (Kindle.). Pearson Education.

Riel, M. (2010). Understanding action research. *Center for Collaborative Action Research*. Retrieved from http://cadres.pepperdine.edu/ccar/define.html.

Roblyer, D., & Davis, L. (2008). Predicting success for virtual school students: Putting research-based models into practice. *Online Journal of Distance Learning Administration*, *XI*(IV). Retrieved from http://www.westga.edu/~distance/ojdla/winter114/roblyer114.html

Roblyer, M. (2005). Who plays well in the virtual sandbox? Characteristics of successful online students and teachers. *SIGTel Bulletin*, *2*.

Roblyer, M. (2006). Online high-school programs that work. *Education Digest*, *72*(3), 55–63. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=22970262&site=ehost-live

Roblyer, M. (2006). Virtually successful: Defeating the dropout problem through online school programs. *Phi Delta Kappan*, *88*(1), 31–36. Retrieved from http://eric.ed.gov/?id=EJ758059

Roblyer, M., & Marshall, J. (2002). Predicting success of virtual high school students: Preliminary results from an Educational Success Prediction Instrument. *Journal of Research on Technology in Education (International Society for Technology in Education)*, *35*(2), 241. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=8948095&site=ehost-live

Roblyer, M., Davis, L., Mills, S., Marshall, J., & Pape, L. (2008). Toward practical procedures for predicting and promoting success in virtual school students. *American Journal of Distance Education*, *22*(2), 90–109. doi:10.1080/08923640802039040

Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: How administrators can influence student and instructor perceptions through policy and practice. *The Internet and Higher Education*, *17*, 29–37. doi:10.1016/j.iheduc.2012.09.004

Rothman, D. (2014). A Tsunami of Learners Called Generation Z. Retrieved November 5, 2016, from http://www.mdle.net/Journal/A_Tsunami_of_Learners_Called_Generation_Z.pdf

Rovai, A. (2000). Building and sustaining community in asynchronous learning networks. *The Internet and Higher Education*, *3*(4), 285–297. doi:10.1016/S1096-7516(01)00037-9

Rovai, A. (2002). Building sense of community at a distance. *The International Review Of Research In Open And Distance Learning*, *3*(1). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/79/152

Rovai, A. (2002). Development of an instrument to measure classroom community. *The Internet and Higher Education*, *5*(3), 197–211. doi:10.1016/S1096-7516(02)00102-1

Rovai, A. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. *The Internet and Higher Education*, *5*(4), 319–332. doi:10.1016/S1096-7516(02)00130-6

Ryman, A. (2012, February 6). Arizona online school bills seek more accountability, money. *The Arizona Republic*. Phoenix, AZ. Retrieved from http://www.azcentral.com/arizonarepublic/news/articles/2012/01/30/20120130arizona-online-school-bills-accountability.html

Sadera, W., Robertson, J., Song, L., & Midon, N. (2009). The role of community in online learning success. *MERLOT Journal of Online Learning and Teaching*, *5*(2), 277–284.

Saldana, J. (2012). *The coding manual for qualitative researchers*. Thousand Oaks, California: SAGE Publishers.

Sansone, C., Fraughton, T., Zachary, J., Butner, J., & Heiner, C. (2011). Self-regulation of motivation when learning online: The importance of who, why and how. *Educational Technology Research and Development*, *59*(2), 199–212. doi:10.1007/s11423-011-9193-6

Seely Brown, J. (2006). New learning environments for the 21st century: Exploring the edge. *Change*, (September/October), 18–24.

Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education*, *55*(4), 1721–1731. doi:10.1016/j.compedu.2010.07.017

Shea, P., Hayes, S., Smith, S. U., Vickers, J., Bidjerano, T., Gozza-, M., … Tseng, C. (2013). Online learner self-regulation: Learning presence viewed through quantitative content- and social network analysis. *The International Review of Research in Open and Distance Learning*, *14*(3), 427–461.

Simpson, O. (2013). Student retention in distance education: Are we failing our students? *Open Learning: The Journal of Open, Distance and E-Learning*, *28*(2), 105–119. doi:10.1080/02680513.2013.847363

Site coordinator hand book. (2012). Retrieved from http://www.coloradoonlinelearning.org/educators/SCHandbook.pdf

Smith, M. L., & Glass, G. V. (1987). Correlational studies. In *Research and Evaluation in Education and the Social Sciences* (pp. 198–224). Needham Heights, MA: Allyn and Bacon.

Smith, P., Murphy, K., & Mahoney, S. (2003). Towards identifying factors underlying readiness for online learning: An exploratory study. *Distance Education*, *24*(1), 57.

Sorensen, C. (2012). Learning online at the K-12 level: A parent/guardian perspective. *International Journal of Instructional Media*, *39*(4), 297–308.

Sprangers, J. (2012). Increasing success of online students: Evaluating student readiness. Retrieved September 20, 2014, from http://researchreportsedu.wordpress.com/2012/07/05/increasing-success-of-online-students-evaluating-student-readiness-2/

Staker, H., & Horn, M. (2012). *Classifying K–12 blended learning*. Retrieved from http://www.christenseninstitute.org/wp-content/uploads/2013/04/Classifying-K-12-blended-learning.pdf

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, *1*(1), 77–100. doi:10.1177/2345678906292430

The Quality Matters K-12 Program K-12 Secondary Rubric–9 General Standards. (2013). Retrieved from https://www.qualitymatters.org//k-12-program-overview/download/QMK-12ProgramOverview.pdf

Top 10 Gen Z questions answered. (2016). Austin, Texas: The Center for Generational Kinetics. Retrieved from http://genhq.com/igen-gen-z-generation-z-centennials-info/

Tullis, J. G., & Benjamin, A. S. (2011). On the effectiveness of self-paced learning. *Journal of Memory and Language*, *64*(2), 109–118. doi:10.1016/j.jml.2010.11.002

Tysinger, D., Tysinger, J., & Diamanduros, T. (2014). The role of the school psychologist in K-12 online & blended learning. In R. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning* (pp. 324–347). Pittsburgh, PA: ETC Press.

van Dijk, J., & Hacker, K. (2003). The digital divide as a complex and dynamic phenomenon. *The Information Society*, *19*, 315–326. https://doi.org/10.1080/01972240390227895

Wang, C., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education*, *34*(3), 302–323. Retrieved from http://search.ebscohost.com.ezproxy1.lib.asu.edu/login.aspx?direct=true&db=aph&AN=91735559&site=ehost-live

Wang, Y. D. (9AD). Building student trust in online learning environments. *Distance Education*, *35*(3), 345–359. doi:10.1080/01587919.2015.955267

Warschauer, M. (1998). Online learning in sociocultural context. *Anthropology & Education Quarterly*, *29*(1), 68–88.

Watson, J., & Gemin, B. (2008). *Socialization in online programs*.

Watson, J., & Gemin, B. (2009). *Promising practices in online learning: Management and operations of online Programs*.

Watson, J., & Murin, A. (2014). A history of K-12 online and blended instruction in the United States. In R. E. Ferdig & K. Kennedy (Eds.), *Handbook of Research on K-12 Online and Blended Learning* (pp. 1–23). Retrieved from http://press.etc.cmu.edu/content/handbook-research-k-12-online-and-blended-learning-0

Watson, J., Gemin, B., & Coffey, M. (2010). *A parent's guide to choosing the right online program*. Vienna, VA: International Association for K-12 Online Learning.

Watson, J., Gemin, B., Pape, L., & Vashaw, L. (2015). Keeping Pace with K-12 Digital Learning: An Annual Review of Policy and Practice (2015). *Keeping Pace with K-12 Digital Learning: An Annual Review of Policy and Practice (2015)*, *1*, 1–119. https://doi.org/10.1017/CBO9781107415324.004

Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2012). *Keeping pace with K-12 online and blended learning: An annual review of policy and practice*. Retrieved from http://www.kpk12.com/reports/

Watson, J., Murin, A., Vashaw, L., Gemin, B., & Rapp, C. (2013). *Keeping pace with K-12 online and blended learning: An annual review of policy and practice*.

Weimer, M. (2010). What it means to be a self-regulated learner. *Faculty Focus*. Retrieved from http://www.facultyfocus.com/articles/teaching-and-learning/what-it-means-to-be-a-self-regulated-learner/#sthash.CaUnOi01.dpuf

Wenger, E. (2000). Communities of practice and social learning systems. *Organization*, *7*(2), 225–246. doi:10.1177/135050840072002

Wojciechowski, A., & Palmer, L. B. (2005). Individual student characteristics: Can any be predictors on success in online courses? *Online Journal of Distance Learning Administration*, *8*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer82/wojciechowski82.htm

Yang, Y., & Cornelious, L. F. (2005). Preparing instructors for quality online instruction. *Online Journal of Distance Learning Administration*, *VIII*(1), 1–15. doi:10.1002/ace.118

Zimmerman, B. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice*, *41*(2), 64–70. Retrieved from http://www.jstor.org/stable/1477457

Zimmerman, B. J., & Tsikalas, K. E. (2005). Can computer-based learning environments (CBLEs) be used as self-regulatory tools to enhance learning? *Educational Psychologist*, *40*(4), 267–271. doi:10.1207/s15326985ep4004_8

APPENDIX A

FIRST QUESTIONNAIRE

Foothills Academy Online Student Survey

Dear student,

You are a valued member of the Foothills Academy community, and we are excited that you are taking advantage of our online course options. We are working hard to provide you with a variety of ways to cultivate "twenty-first century skills," prepare for college and career, and ensure you enjoy the journey along the way!

Your participation in this survey is critical to Foothills Academy's efforts to develop an online program where students feel and are successful. The results will inform our work, helping us to fulfill a commitment to facilitating virtual learning that supports each of your needs.

Personal information you provide is confidential, disassociated from Foothills Academy student records, and will be accessible to and analyzed by solely Foothills Academy Connected leadership.

Thank you, very much, for your thoughtful contributions to our understanding of you and your experience in FA's online courses. If you have any questions concerning the research study, please contact me at cedwards@foothillsacademy.com.

Clea Edwards
Director, Foothills Academy Connected

Note: The constructs in this survey are adapted from Roblyer, M., Davis, L., Mills, S. C., Marshall, J., & Pape, L. (2008). Toward practical procedures for predicting and promoting success in virtual school students. American Journal of Distance Education, 22(2), 90–109. doi:10.1080/08923640802039040

Confidential Identifier

To protect participants' confidentiality, we will use a unique identifier code made up of letters and numbers, rather than the participants' names, for data analysis. To create this unique code, the participant will be asked to record the first three letters of his/her mother's first name and the last four digits of his/her phone number. (For example, take the first 3 letters of your mother's first name, e.g. mar for Mary, and attach it to the last 4 digits of your phone number, e.g., 9080, for a unique code mar9080.)

Personal Characteristics

How old are you?

- ○ 13 years old

- ○ 14 years old
- ○ 15 years old
- ○ 16 years old
- ○ 17 years old
- ○ 18 years old
- ○ 19 years old

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other/Prefer not to say

What grade are you in?

- ○ 12th
- ○ 11th
- ○ 10th
- ○ 9th
- ○ 8th
- ○ 7th

Do you use FAC's on-campus space (Room 199, Learning Center) to work on your online courses?

- ○ Daily
- ○ A few days a week
- ○ Occasionally
- ○ Never

Prior to your current course enrollments, had you taken an online course?

- ○ Yes
- ○ No

What is current your grade point average (GPA)?
(Provide you best guess, if you are unsure.)

- ○ 3.50-4.00 (A)
- ○ 3.00-3.49 (B)
- ○ 2.50-2.99 (C)
- ○ 2.00-2.49 (C)
- ○ 1.00-1.99 (D-F)

The following two questions are about your non-school commitments. The first inquires about serious work or family obligations. The second refers to regular commitments to activities such as clubs, athletics, dance, theater, or volunteering. Do you have significant obligations to your family (e.g. children or an ailing parent you care for) and/or to a job (i.e. a paid position of 15+ hours/week)?

- Yes
- No

Are you regularly involved in an activity (or activities) that consumes a significant portion of your week (e.g. 15+ hours/week, including competitive or intensive athletics, a club, a volunteer position, or dance)?

- Yes
- No

I feel comfortable using a computer.

- Strongly Agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

I study hard for all of my classes because I enjoy acquiring new knowledge.

- Strongly Agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

I have easy access to a computer with Internet capability.

- Strongly Agree
- Agree
- Somewhat Agree
- Somewhat Disagree
- Disagree
- Strongly Disagree

I do not care what other people think of me if I make mistakes.

- Strongly Agree

- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

Many times, I lose interest in attaining the goals I set.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I have good word processing skills.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I am not afraid of making mistakes if I am learning to do new things.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

When I have to do something new on a computer, I usually try to figure it out myself.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I rarely set goals for myself.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I know how to send an attachment in an e-mail.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

If I am given a task to perform that I know little about, I don't mind taking a chance.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I have a computer in my home.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I believe I am a high achiever.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree

- ○ Disagree
- ○ Strongly Disagree

I use e-mail or instant messaging at least once a week.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I find that I try harder if I set high goals for myself.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I tend to persist at tasks until they are accomplished.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I know how to use a browser to locate Internet sites.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I will often set short-term goals to help me reach a long-term goal.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree

- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I know how to use an Internet search engine to locate information.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I like taking chances and performing risky tasks in learning situations.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I know how to locate a document or a program on my computer.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

When I am learning something new, it is okay if I make errors.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I am afraid of failure if I take risks.

- ○ Strongly Agree
- ○ Agree

- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I find it easier to study for an important test by breaking it into subparts rather than studying the whole subject matter at one time.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

I take notes (hand-written or digital) on each subject.

- ○ Strongly Agree
- ○ Agree
- ○ Somewhat Agree
- ○ Somewhat Disagree
- ○ Disagree
- ○ Strongly Disagree

What do you find MOST CHALLENGING about online schooling?
Choose no more than two. If you choose "Other," describe the challenge.

- ☐ Staying on task (avoiding distractions or redirecting your focus quickly back to schoolwork)
- ☐ Managing time
- ☐ Reduced social interaction (not seeing classmates regularly)
- ☐ Learning the content on your own
- ☐ Communicating with instructors (you may not be comfortable
- ☐ Finding and maintaining the motivation
- ☐ Setting and sticking to a schedule
- ☐ Not having a teacher or someone always monitoring, reminding, and checking in on you
- ☐ Other: ☐

Please DESCRIBE your choice: Explain what you find MOST CHALLENGING about online schooling.

This is an opportunity for you to give me a better sense of what your obstacles are or what causes you to struggle in the program, and how what that part of the learning experience is like for you.

In what way(s) do you think you could be better supported?
To answer this question you may consider your parent(s)/guardians, your instructors, the online learning platform, campus space, and course offerings, for example.

Please state and describe what you like BEST about schooling.

APPENDIX B

PARTICIPANT VISUAL AUTOETHNOGRAPHY ASSIGNMENT

"My Life as an Online Student"

Photo Project Instructions

In this exercise, students will respond to prompts (questions intended to encourage broad thinking) related to their online schooling experience with a combination of images *and* words.

> Each submission involves a series of five photos in a digital slideshow, accompanied by written statements. The idea is to provide me with a profile of your life as an FAC online student—a brief "'day in the life of' you"!

For each photo, include an explanation in the form of a brief written narrative: Describe each scene briefly, as they respond to the prompts below.

You do not need to respond to each prompt with a single photo; you can decide how to respond to the prompts, and are invited to think broadly about what they are asking you. However, you must indicate which question(s) you are responding to.

Format:
Choose a slideshow presentation program, such as Google Slides, Microsoft PowerPoint, Mac Keynote, or Prezi. Different formats are acceptable. Acceptable variations *include*:

- Each slide includes the question, explanatory statement, and photo; a final slide (or two) presents each response to the summary written reflection prompts.
- Each photo is alone on a slide and adjacent slides provide the required text; a final slide (or two) presents each response to the summary written reflection prompts.
- The slide show is exclusively to present the five photos, and a separate document (such as a Google Doc) provides the written work required (clearly indicating to which photo in the slideshow each question and statement refers, as well as the responses to the summary written reflection prompts).

Time log:
Please *record your time* working on this project, including any time you expend behind the camera. You should spend some time processing the instructions, thinking about the prompts, possibly taking notes, asking questions, and taking photos. All of this time should be recorded on your time log.

Example: *You choose Google Slides. You title the presentation: "Online Learner Profile: [Your Name]". The approach you prefer is for the first 5 slides to include one photo, the related question, and the related explanation. Among your 5 photos, you include a photo of your sibling, and your intent is to convey that s/he is a big distraction to your ability to stay focused on schoolwork. You (a) write that the question you are responding to is "What (or who) distracts you?" and (b) provide a brief statement (2-3 sentences is sufficient) explaining this. The last two slides are text*

boxes responding to each of the two Summary Written Reflection prompts below, respectively. You record your efforts on this in your FAC Time Log, as you go.

Prompts:

- Where do you do your online coursework, primarily?
- Does someone help or work with you? Who?
- What (or who) distracts you?
- What do you do or what *tools do you use* to get started and stay on task?
- When do you work on your coursework?
- What is most challenging about online learning?
- What is your favorite part of the day?

Summary Written Reflection:

- Please describe *what stood out most* to you about your habits as an online learner, through this assignment (2-3 sentences).
- Provide a brief statement about being a successful online learner that could help inform a new online learner about what to expect, based upon your experience (~3 sentences).

I encourage creativity, but it is important that you can express in words your meaning behind each image. We may have a discussion following your submission for you to further explain your choices of photos as they relate to the prompts, and reflections.

To review, this assignment entails:

Images: a slideshow with 5 photos

AND

Words: a written explanation with each image that briefly tells the story you are trying to convey, the question, and written responses to the two reflection prompts.

AND

Time record: completed time log entries for the time you spent on this activity.

Please share the completed project through your Google Drive. (Upload your product to your Google Drive folder, if you did not create it within the Google Suite, and click the "Share" button in the top right of your presentation.)

Contact me right away with questions or concerns: cedwards@foothillsacademy.com or 480-331-2338 (call/text).

APPENDIX C

SEMI-STRUCTURED INTERVIEW PROTOCOL

This protocol is a guide for conversations tailored to each student, based on data collected to this point.

Thank you for meeting me over your break!

You may and should record on your FAC Time Logs the time you spend in this interview. I will record our conversation, solely so that I can refer back if I miss something you said and wish to refer to it later.

How is it going -- have you done anything special for the holidays or this break, so far?

The purpose of this meeting is to catch up with you, reflect together on the previous Session (#3), and consider the upcoming one. I'd like for you to think through your practice as an online student; to, essentially, craft for me your story. If you are not content with things as they were, perhaps we can work together to revise… to help you craft a more satisfactory narrative for the future.

We will take no more than 30 minutes of time.

Walk me through your average week.

Schedule

- Please describe how you have developed your work routine.
    - How do you know what you will work on each week and when?
- Please describe how you have developed your work routine.
    - How do you know what you will work on each week and when?

You said "_____" to "I have a personal schedule with, at least, a guideline of what lesson or how much time I will spend on a course each work day." --Please explain (describe the schedule if "Agree"+).

Support & Community

- Is there someone who helps you stay on track or checks in with you about school?
    - Who?
    - What do they do?
    - Do you find their approach helpful? (annoying?)
- Do you interact much with your instructors?
    - Do they reach out to you?
    - What kind of feedback do you get?
    - What kind of feedback do you wish you got, if any?
- How do you feel about the difference in social interaction between FAC and a traditional school?

    - Do you interact with individuals near your age in any regular way (coping)?

Development as an online learner

- How would you describe the process of transitioning to online learning… Put another way: How do you feel you have grown as an online learner since you enrolled in FAC?
    - Do you feel that you have been able to develop strategies to help you minimize the main challenges you originally experienced in this program [_____ (insert from Questionnaire 1)]?
- What strategies have you found to be most effective for motivating yourself, for meeting your goals?
    - What do you do if you don't understand something?
- What is the process you had to undergo to arrive at a level of comfort with your schooling strategies, or, would you say, you are there yet?
    - failure?
    - risk-taking?
    - discomfort in certain areas?

Potential Interventions

From my perspective, there are a few things that I could do directly potentially to help -- to support you, to help you address your most significant challenged. I'll list them, and I hope that you will honestly tell me if any resonates with you as being worthwhile to try:

- Daily checklist with email or phone review (includes course due dates and any other work related goals)
    - This would involve a certain degree of your reporting to me your status
- Weekly checklist with email or phone review (includes course due dates and any other work related goals; offers the flexibility or leeway of additional days)
    - This would involve a certain degree of your reporting to me your status
- Regular communication via an alternative medium (e.g. texting)
- Time management lesson(s) (such as an online module)
- Schedule building workshop

Academics General

- How comfortable are you with the concept of "academic integrity," by which I mean mainly proper referencing of sources in written work?

What about your online learning experience have you not yet expressed that you wish to, now?

[More] Student Specific

Goal:
You wrote in the recent survey that your goal for next session is to… "_____." Please explain….

Main challenges:
You explained that the main challenge you experience with online schooling is "_____". Let's discuss that.

Other:
Talk about items on which the student scored below Agree.

Discuss texting option.

Where do you see yourself in 5 years?

- How does school fit into that vision?

Potential Follow-up Questions

Share with me how well you think you are meeting your goals for this school year. How does this year compare with your previous educational experiences?

- Consider whether online learning sounds to be a good fit.

Technology skills/access/self-efficacy

- If you could make GradPoint better, what are the top two things you would do?

Achievement beliefs

- Have you made a habit of setting goals for yourself? Please explain.
- Do you set high goals, ones that challenge you? If so, do you feel that this makes you try harder?
- Do you believe you are a high achiever?
- Do you feel your ability and willingness to stick with a task until it is finished is better?
- When you complete a course do you stop, even for a second, and feel good about the accomplishment?

Instructional risk-taking

- How do you feel about taking on or beginning new tasks?
- Do you worry about making mistakes or about failing?
- Do you worry what others might think of you if you make mistakes?

- Do you like taking chances? For example, if you were to participate in a science fair or write a big paper for English, how would you feel about choosing a topic you are interested in but know very little about?
- How often do you communicate with your instructor or Mr. Mayfield?
- Do you initiate conversations with your instructors?

Organization

- Do you take notes? Handwritten or digital?
    - How do you keep your notes? Do you think you keep your notes organized? As in: they are easy to find when you refer to them; there is a logical order to them.
- What is your approach to studying for a posttest or a review test?
- Do you break learning material into chunks in order to study it, or do you tackle the whole thing – the whole module or course, depending on the test you are preparing for?
- Do you set short-term goals to help you reach long-term goals? In other words, are you able to identify something you want or need to do off in the future and then generate smaller things you need to do along the way to achieving that thing that aspire to in the future?

Plan / Overview and Reflection:
Space to write notes on conversation, including what might be an effective plan of augmenting support for the student...

175

APPENDIX D

SECOND QUESTIONNAIRE

Foothills Academy Connected Student Questionnaire
(Session #3 Reflection)

Dear FAC student,

You have made it through Session #3 of the 2016-2017 school year -- hurray! This BRIEF survey asks that you reflect on your online learning experience, and the previous weeks in particular.

Personal information you provide is confidential, and will be accessed by your FAC Program Advisors, solely.

Thank you, very much, for your thoughtful contributions. Your required input will help us make your online learning experience as successful as possible.

As always, I am available for your questions: cedwards@foothillsacademy.com.

Clea Edwards

Director, Foothills Academy Connected

Your email address will be recorded when you submit this form.

Personal Characteristics

First Name
Your answer
Last Name
Your answer
What is your gender?

Male

Female

Other/Prefer not to say

What grade are you in?

12th

11th

10th

9th

8th

7th

How long has your schooling been online?

I am new to online schooling this year.

This is my second year doing my schooling online.

This is my third year doing my schooling online.

I have done my schooling online for longer than 3 years (approximately).

I have always done online schooling.

What do you expect your average combined grade to be from Session #3? (Provide your best guess, if you are unsure.)

90-100% (A)

80-89% (B)

70-79% (C)

60-69% (C)

59% or below (D-F)

Incomplete

Session #3 Reflection Questions

I have a personal schedule with, at least, a guideline of what lesson or how much time I will spend on a course each work day.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I feel comfortable navigating GradPoint.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I check my Foothills Academy email at least 2 times each week, on average.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

When my work is hard, I often search for resources that can help me understand better.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I found the content in my courses this Session interesting.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I feel good about the effort I put into my schoolwork.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I feel confident using the “Google Suite,” including Google Docs and Sheets (such as the Time Log).

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am comfortable managing my time, so that I rarely get behind.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am comfortable reaching out to my instructors when I have questions I cannot answer on my own.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I have a consistent study space.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

Technological issues do not disrupt my work (such as wi-fi connectivity or computer trouble).

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am responsible for doing my work independently and asking for help when I need it.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I know how to find helpful resources online to support my learning.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am confident I can achieve the target dates in my courses next session.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am motivated to do well in my courses, even during the times I find the material less interesting.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I am responsible for my learning.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I remember to complete my Time Logs weekly.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I understand the target dates in my courses and pace my work effort accordingly.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

As soon as I have a question about the content in one of my courses, I make an effort to review the material from the lessons and try to answer the question myself.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

I would benefit from program advisement communication through text messaging.

Strongly Agree

Agree

Somewhat Agree

Somewhat Disagree

Disagree

Strongly Disagree

The hardest aspect of Session #3 for me was…
(please state what you found most challenging about this last session)
Your answer

My online learning experience would be improved by…
(please state a specific action you could take or program personnel or your parents could offer for Session #4 to be more positive than Session #3)
Your answer

My favorite thing that I learned about during this session is…
Your answer

Next session, my main goal to limit the challenges I faced in the previous session, is to…
(please state what you hope you will be able to do differently next session for a better experience)
Your answer

A copy of your responses will be emailed to cedwards@foothillsacademy.com.

APPENDIX E

IRB APPROVAL FOR RESEARCH WITH HUMAN SUBJECTS

EXEMPTION GRANTED

Ray Buss
Division of Educational Leadership and Innovation - West
602/543-6343
RAY.BUSS@asu.edu

Dear Ray Buss:

On 4/4/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Online Learner Mentor Program
Investigator:	Ray Buss
IRB ID:	STUDY00003889
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Approval Letter Director of School, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • Approval Letter Board , Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • Online Survey--Pre-intervention Version, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Parent Permission Letter , Category: Consent Form; • Auto-ethnography Instructions and Interview Items, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Student Assent Form, Category: Consent Form; • Online Survey--Post-intervention Version, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • IRB Protocol, Category: IRB Protocol;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings on 4/4/2016.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc:
Clea Senneville

189